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CUBA—THE SUGAR MILL OF THE ANTILLES

By William Joseph Showalter

FOR long generations the Spanish people believed that somewhere in the New World there existed a land of gold and jewels, rarer and fairer than any discovered country.

Ill-advised colonial policies deprived the Castilian Crown of the El Dorado its subjects sought—for such Cuba has become, because the world has developed a sweet tooth that must be satisfied.

The rivers of sugar flowing out and the streams of gold flowing in are transforming the island that Christopher Columbus pronounced the fairest land he had ever seen into a realm where prosperity runs riot.

They have made it the scene of a new romance of a thousand millionaires, with Havana as the Pittsburgh and sugar as the steel of the story.

THE IMMENSITY OF THE SUGAR INDUSTRY

With a sugar production nearly doubled and prices more than quadrupled since 1912, one can readily see why Cuba is the world's El Dorado of 1920, and why sugar is its king.

The imagination is almost overpowered in attempting to comprehend the vast proportions of the sugar industry of the island as it exists this year.

The cane produced is of such tremendous volume that a procession of bull teams like those on page 13, four abreast, reaching around the earth, would be required to move it. The crop would suffice to build a solid wall around the entire two thousand miles of the island's coast-line as high as an ordinary dwelling-house and thick enough for a file of four men to walk abreast on it.

The sugar extracted from this cane would load a fleet of steamers reaching from Havana to New York, with a ship for every mile of the twelve hundred that stretch between the two ports. The great pyramid of Cheops, before whose awe-inspiring proportions millions of people have stood and gazed in open-mouthed amazement, remains, after five thousand years, unrivaled as a monumental pile; but Cuba's sugar output this year would make two pyramids, each outbasing and overtopping Cheops.

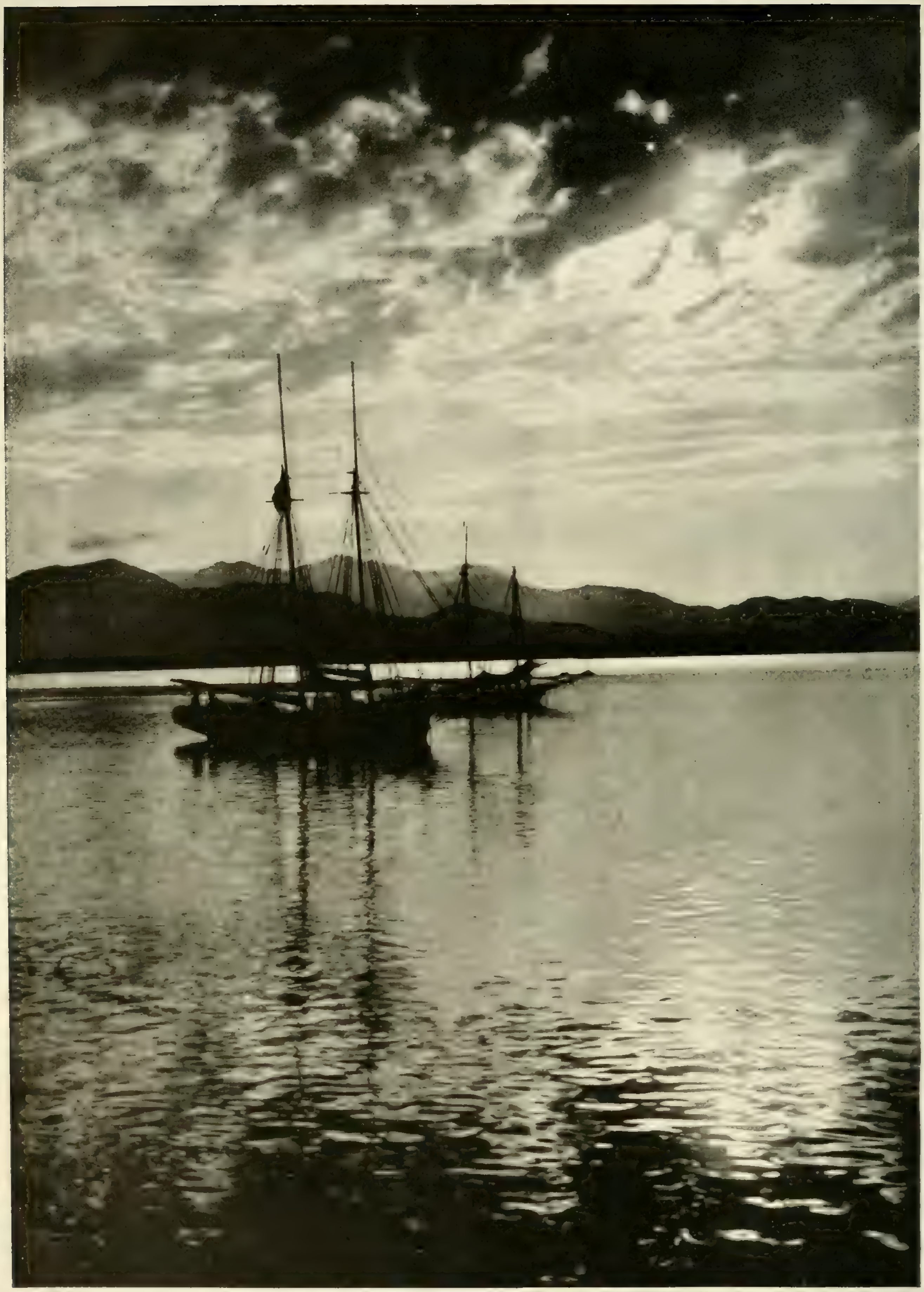
The wealth the outgoing sugar crop brings in is not less remarkable in its proportions. Four hundred dollars out of a single crop for every human being who lives on the island—a sum almost as great as the per capita wealth produced by all the farms, all the factories, and all the mines of the United States!

What wonder, then, that Cuba today is a land of gold and gems, richer than Midas ever was, converting Crœsus, by contrast, into a beggar! (See pages 12-18, 20-30.)

AN UNPRECEDENTED DEMAND FOR CIGARS

Nor is sugar the only source of wealth that our fair neighbor across the Straits of Florida possesses. Wherever men dine well, whether in Brussels or Bombay, Sydney or Chicago, Rio or the Riviera, Havana cigars follow the coffee.

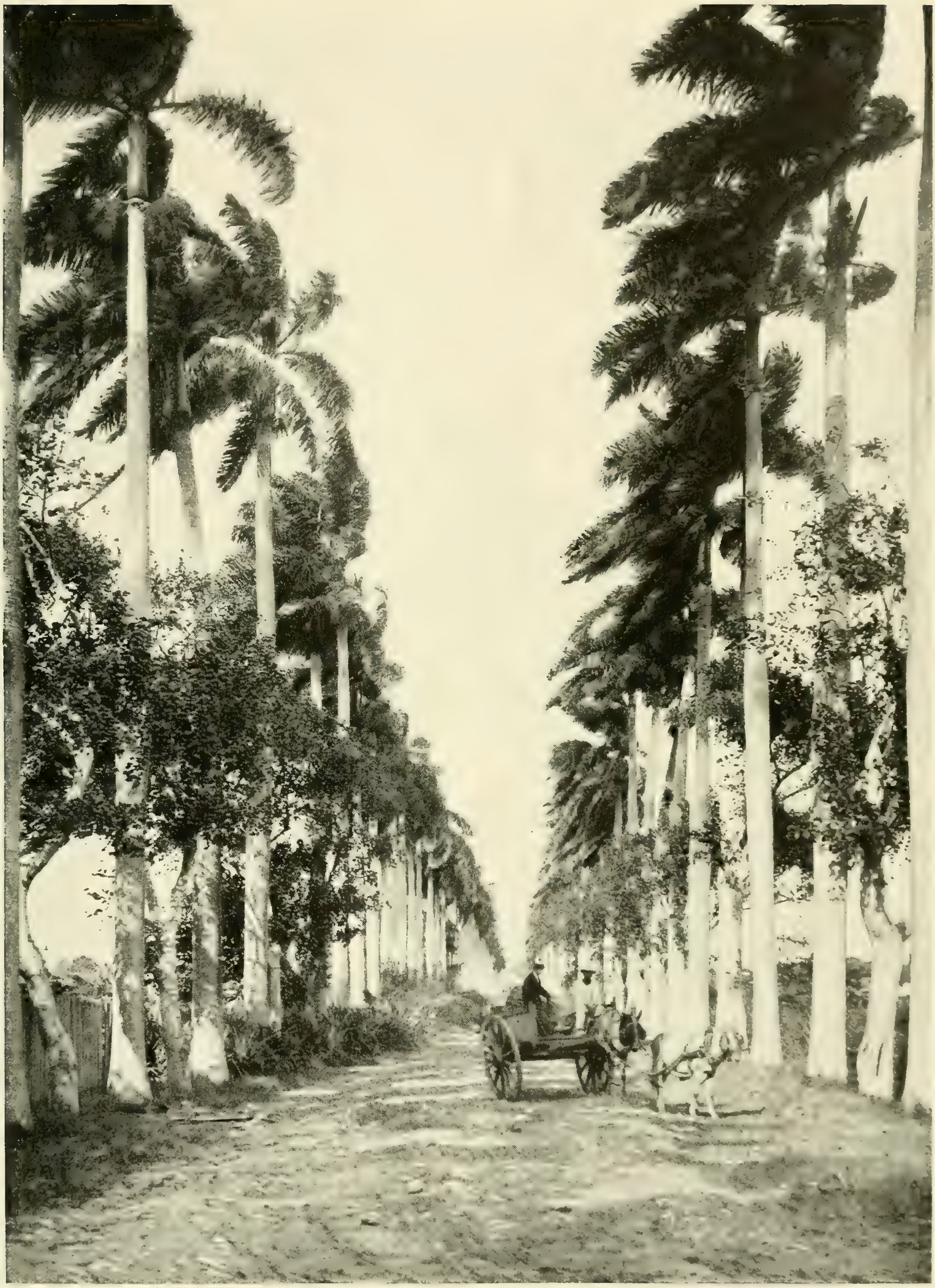
Never before was there such a demand as now for fine cigars. The masses in most countries may be impoverished as



Photograph from American Photograph Company

A MOONLIGHT NIGHT ON NIPE BAY: CUBA

This wonderful harbor, said to be the third largest in the world, is located on the coast of northeastern Cuba, across the island from Santiago. The fleets of the world might ride on its broad bosom, yet the outlet to the sea is so narrow that one could almost throw a stone to either bank from the deck of an outgoing steamer. The sugar industry of eastern Cuba centers around this bay.



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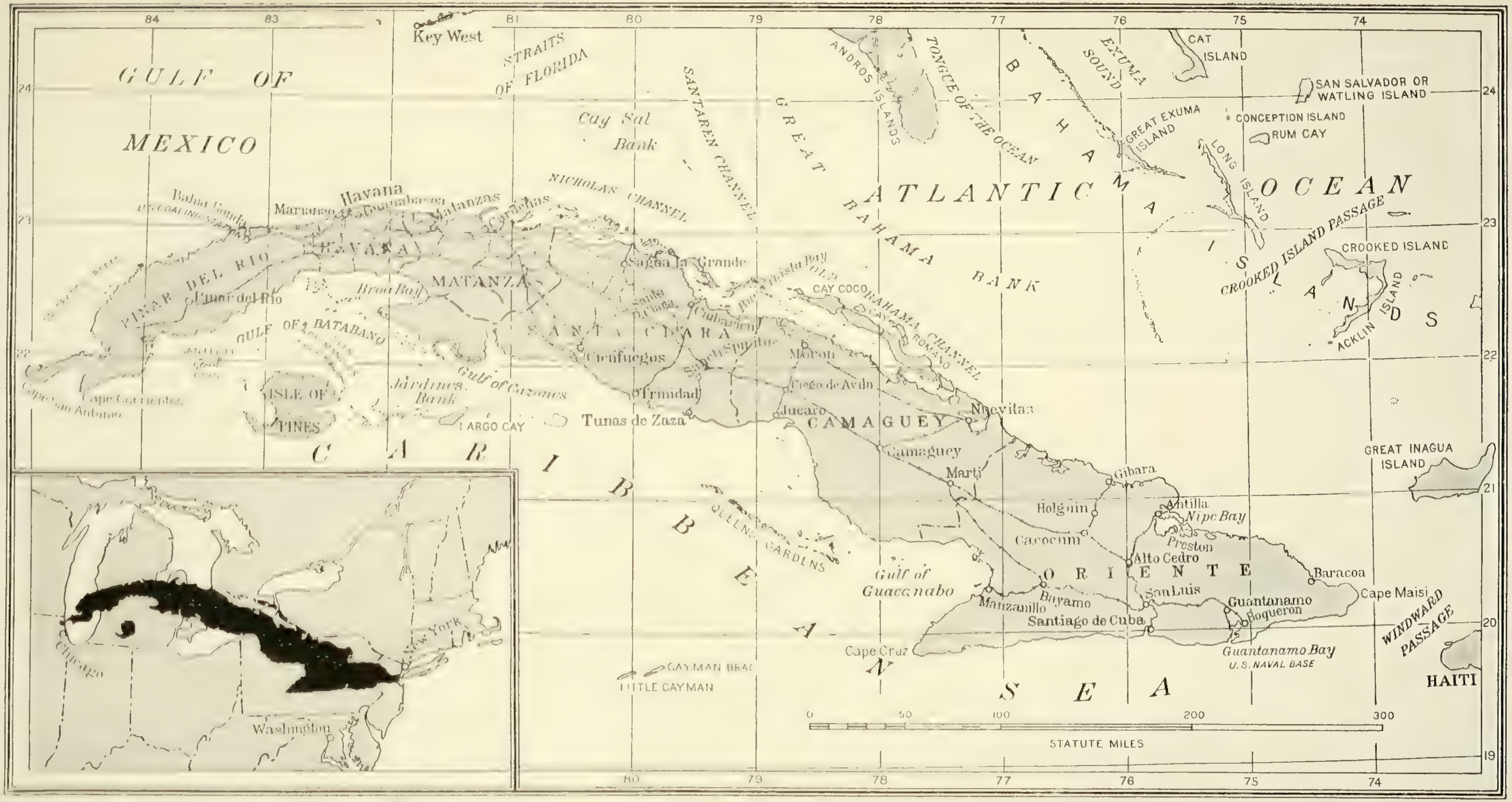
ONE OF THOUSANDS OF AVENUES OF PALMS IN CUBA

As the traveler journeys through the island, such a palm avenue is to be seen in almost every landscape. Many such avenues once led to the mansions of rich plantations; but now in many instances the houses are gone, the roadways are overgrown with tropical vegetation, and only the palm trees remain to tell the story of the changes wrought by the passing centuries.



Drawn by A. H. Bumstead

A MAP OF CUBA AND THE NEIGHBORING BAHAMA ISLANDS

The small inset shows the length of the island, comparable to the distance between New York and Chicago. In width it averages only sixty miles, and no place on the island is more than forty miles from the open sea. Among its chief commercial assets are its numerous excellent roadsteads. In area Cuba is equal to Pennsylvania, in the number of inhabitants it equals Georgia.

the result of the nightmare of war through which the world so recently came, but both the number of those who insist on Havana cigars and the number of cigars they smoke have increased at such a prodigious pace that every factory in Cuba is being forced to scale its orders.

One Havana corporation specializing in choice brands is said to have received an order for fifty million cigars. It could only undertake to deliver twenty million. Practically every Cuban factory has so many unfilled orders that each could run a full year without new business.

THE GEOGRAPHY OF CUBA

Few people appreciate either the dimensions or the area of Cuba. If you were to place the eastern tip of the island—Cape Maisi—flush with Barnegat Beach, New Jersey, on a map of the United States of like scale, Cape San Antonio, the western land's end, would touch the eastern border of Illinois, spanning the five States of New Jersey, Delaware, Pennsylvania, Ohio, and Indiana.

If those unfamiliar with the island are surprised at its length, a realization of its width, averaging only about sixty miles, likewise surprises. No place on the island is more than forty miles from the open sea. In area it is a Pennsylvania, and it has a population numerically equivalent to that of Georgia.

Nature and history have conspired to make Cuba a land of enchantment.

One approaches the island through sapphire seas. Its north shore, to the west of Florida Straits, is washed by the Gulf of Mexico and that to the east by the Atlantic Ocean; while the south shore is laved by the beautiful waters of the Caribbean. Both shores are fringed with myriad islands, idyllic spots unvisited by modern things.

AMONG THE WORLD'S FINEST HARBORS

No other land in the New World possesses proportionately such numerous and wonderful bays. Most of them are distinguished for their bottle-necked entrances, vast areas of water being entirely surrounded by land, except for narrow channels to the sea, through which ships gain access to matchless roadsteads.

An example of these splendidly sheltered harbors is Nipe Bay, on the northeastern coast. It is said to be the third largest harbor in the world. The storm-tossed ships of every sea might find peaceful anchorage there, with room to spare; and yet the entrance is so narrow that, once inside, one seems on a lake rather than in a bay.

Similarly, at Santiago, as one passes the frowning bastions of Morro Fortress, the narrow channel seems thoroughly clogged with small islands, but once past these the voyager enters a broad and charming bay.

The scenery of Cuba is as varied as heart could wish, and as the visitor journeys the length of the island, scenes of unrivaled beauty greet the eye—the low country is begemmed with valleys where innumerable avenues of royal palms wave their crowns of spreading fronds and lend enchantment to the landscape.

For one who loves mountain scenery, there are occasional spots where the Andes and the Rockies may be seen in miniature. The Vinales Valley, for instance, in the northwestern part of the island, has been pronounced one of the finest between Alaska and Panama. In many places the mountains are a veritable jumble of weird and fantastic shapes.

THE CALL OF HISTORY

What stirring story of the Spanish Main—of buccaneer, pirate, and privateer—lacks a Cuban end or a Cuban counterpart? What terrible tale of national suffering surpasses the agonizing days when the whole rural population, under the iron hand of Weylerism, was huddled into reconcentrado camps and starvation stalked in every household?

Outside of Havana Harbor, in the eternal calm that pervades the depths of the ocean, lies the shivered hulk of the battleship *Maine*, whose destruction by treacherous hands brought the banner of the forty-five stars to the side of the flag with one.

Along the southeastern shore are strewn the wrecks of that Spanish Armada whose defeat on July 4, 1898, made Cuba Libre a reality.

In Santiago one may sit at the banquet table where Admiral Cervera, with tears in his eyes, declared that on the morning of the morrow his fleet would go forth

Photograph by Walter RuKeyser

CHICKEN COOPS AT THE HAVANA CITY JAIL: CUBA

The average Cuban is as fond of cockfights as the average American is devoted to baseball. It would take a linguistic scholar to unscramble the bedlam of betting jargon one hears at a Cuban cocking main.

to what seemed a hopeless battle, but a necessary one, since no Spanish sailor could prefer ignominious surrender to an honorable, though losing, fight.

PREPARING FOR THE TOURIST

The raw material for making Cuba an ideal land for the individual who seeks sunshine in the winter is certainly present in an abandon of richness. That much is still lacking in the development of this material is evident to any one who has taken "pot luck" with the rank and file of those who fled from the cold and the snow of the north.

Almost every person who visits Cuba on pleasure bent lands in Havana, and comparatively few get more than twenty miles away from that city's central park.

If New York, Chicago, Philadelphia, Boston, and Washington were consolidated, the resulting metropolis would bear about the same relation to the United States that Havana bears to Cuba. The capital city is the home of more people than are embraced in the combined populations of all the other cities and towns of the Republic that have more than 4,000 inhabitants. Its closest rival is Santiago, but that city has only one-tenth as many people.

All of the big business houses in Cuba have their headquarters in Havana and some of the banks have built skyscraper homes.

As half the country's urban population is centered in Havana, so also is half of its shipping. The city normally handles a greater foreign tonnage than any other port in the Western Hemisphere except New York.

THE COUNTRY'S WEALTH CENTERS IN HAVANA

Most of Cuba's wealthy families have Havana homes. During the past four years the net profits of the sugar business have probably exceeded the gross returns of any other four-year period in the history of the island.

The result is that perhaps no other city in the whole world has proportionately as large a wealthy population as Havana. Nor has that population reached its climax.

Out of these conditions has grown a

Photograph by Walter RuKeyser

A VIEW OF MORRO CASTLE AND THE ENTRANCE TO THE HARBOR OF HAVANA FROM THE BASE OF THE SEA-WALL ON THE CITY SIDE OF THE HARBOR

situation where dollars are even cheaper than they are now in the United States. Tens of thousands of acres of land are being laid out in residence sites, and the Vedado district, the Riverside Drive and the Sheridan Road of Havana, is being extended until it reaches farther from the Prado than Riverside Drive from New York's City Hall Square or Sheridan Road from Chicago's Loop.

There are no advertising signs on these lots. But as one motors along one sees nestling close to the ground inconspicuous little boards, about a foot long, and half a foot wide, bearing the legend in Spanish "Sold to Mr. So and So." And Mr. So and So is usually some rich Cuban who has made a fortune out of sugar down in the provinces and is coming up to the capital for the social seasons. If not that, he is probably an American who likes to be reasonably near the country clubs, and prefers to live where the cocktail has not lost its legal status. The price of the lots is from one to three dollars a square foot, or from $43,000 to $130,000 per acre.

THE TOURIST'S BILLS

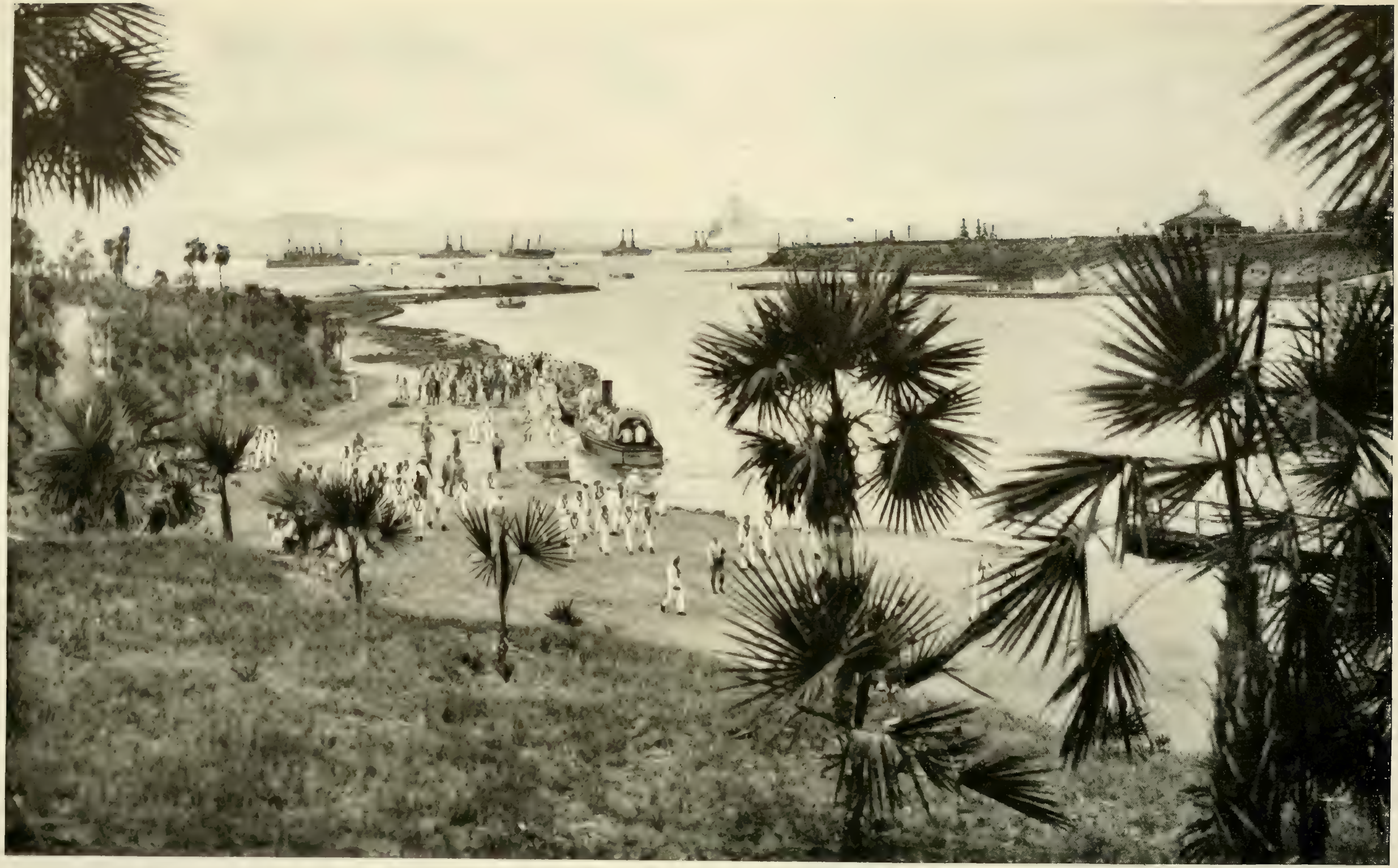
If high prices hit those to whom Havana is home, it is, of course, natural that they should strike the transient even more forcibly. Hotels everywhere are always the advance guard in the price climb, and those in Cuba have been no exception.

There is only one hotel in Havana that gives anything like the American standard of service, and its rates during the past season were $25 a day for an outside room with bath, without meals. It purposed to cater only to those to whom prices are no object; but that sort of patronage failed to develop in sufficient volume to maintain a full house.

The other hotels charged rates of from $6 to $12 for accommodations far from as good as one gets at from $3 to $6 in New York. The result was that many people who came to spend a week or ten days moved up their return dates considerably, and the tourist population changed on the average every four days.

The disappointments of the past season promise for next year a saner adjustment between rates and service.

The Cuban National Tourist Association is working out a program which aims to lay a solid foundation for a steady development of a healthy, growing tourist traffic. Under this association's plan, every room in Cuba that is open to the tourist is to be listed as soon and as long as it meets the required conditions of sanitation and moral surroundings.



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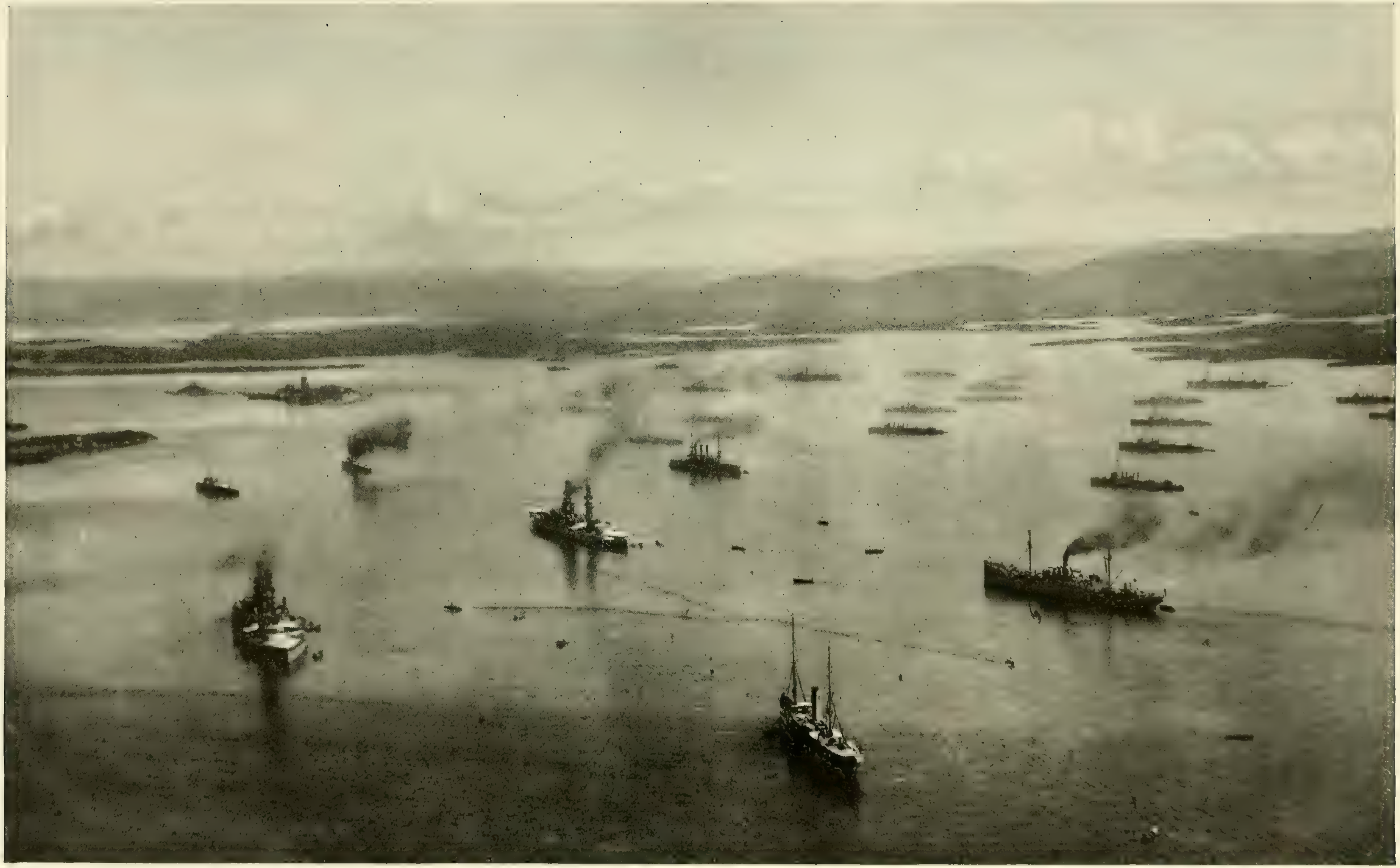
WHERE THE AMERICAN NAVY ASSEMBLES FOR ITS ANNUAL TARGET PRACTICE: GUANTANAMO BAY, CUBA

This United States naval station was established after the Spanish-American War, and is the outpost of the naval defenses of the Panama Canal. The photograph shows dreadnaughts of the Atlantic Fleet in the background. In the foreground is a navy launch discharging white-clad "bluejackets" off on a sight-seeing expedition. Palm trees, sunny beach, and dancing waters make Guantanamo a winter paradise.



Photograph by J. Harold Stieg

THE UNITED STATES NAVAL STATION AT GUANTANAMO, CUBA, AS SEEN FROM THE BASKET OF A CAPTIVE BALLOON

Cuba is one of the most favored lands in the number of its fine harbors. Guantanamo Bay lends itself to every requirement as the site of a great naval station. Here are gathered superdreadnaughts like the *Arizona* and *Pennsylvania*, hospital ships like the *Solace*, and a swarm of torpedo craft.

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AMERICAN SAILORS EATING COCONUTS AND FRESH FRUIT IN THE SHADE OF PALM TREES: CUBA

The island is so long that the distance between Cape Maisi, at the eastern end, and Cape San Antonio, at the western end, is as great as that from the New Jersey coast to the Illinois boundary. Yet at no point in the entire country can one get more than forty miles away from the sea (see text, page 5).

The price of all rooms will be printed, and every effort will be made to secure that general adherence to the principles of sound business and fair dealing which will win for Cuba the friendship of all who come and lead each of them to send others.

Arrangements have been completed, and work started on the building of several large dirigible airships for the purpose of operating a passenger air line, with a daily schedule, between Miami, Florida, and Havana. The distance between the two resorts is about 300 miles, and will be covered in approximately six hours, which calls for a flying speed of fifty miles an hour. The big "blimps" will have passenger space for from thirty to fifty persons besides the crew. Thousands of visitors to Miami heretofore have been carried to Havana on a small steamer, spending two or three days in the latter city on a personally conducted tour, and it is expected that the "Blimp Route" will prove exceedingly popular.

THE RAILROADS' PLANS

In the past there has been much to discourage the tourist who wanted to go out into the provinces. The day trains have had no parlor cars, and the coaches usually have been overcrowded. The Havana-Santiago Express has been run on a schedule of 35 hours, with a distance of only 538 miles to cover.

But next season some of the railroads intend to install facilities for handling the island's visitors in a much more satisfactory way. Parlor cars are to be put on day trains, dining-cars may be carried, and the running time of principal passenger trains reduced.

Furthermore, in order to provide proper hotel facilities in cities outside of Havana, some of the railroads are increasing the number of hostelries under their control, and have plans for bringing their hotels up to satisfactory standards.

When these improvements are instituted and English-speaking conductors or interpreters are placed on the tourist-carrying trains, it will be possible for a visitor to move leisurely through the island to Matanzas, Cienfuegos, Camagüey, and Santiago. From Santiago he can go to Antilla and take a steamer either to New York or New Orleans.

Such a trip gives a splendid view of the island, affords one a better understanding of the country, and sends one back to the United States a better citizen, with a broader grasp of the fundamentals of America's international relationships.

A DEMONSTRATION STATION IN INTERNATIONAL ALTRUISM

Cuba may well be considered a demonstration station where the theories of international altruism are under practical operation. When the United States took upon itself the burden of winning for the people of the island their independence, and then set them on their feet with a republican form of government, the world was amazed.

Asking only that peace be maintained, and that the conditions essential to peace be observed, Uncle Sam retired from the island. Except for the effort of José Miguel Gomez to overturn the existing government in 1917—an effort against which America promptly pledged its support to a quick ending of the revolution—peace has been maintained since the intervention, and constitutional principles have been observed.

CUBA'S PROSPERITY MEASURED

This check upon revolutions and tyranny, this guarantee of protection for foreign investments, has proved an immeasurable boon to the Cuban people. Foreign commerce comparisons tell the story. Guatemala is larger than Cuba and is almost equal in population; yet in 1918 the value of Cuba's exports was 35 times that of Guatemala's. Venezuela has nine times as much territory as Cuba and as many people; yet its 1918 exports had only one-fifteenth the value of Cuba's. Indeed, the value of Cuba's exports that year were twice as great as the combined exports of the eight countries lying between the Texas border and the South American boundary.

Less than three million people on less than fifty thousand square miles of land, with an export trade twice as large as that of twenty million people on nearly a million square miles of territory! And that was in 1918, when export values in Cuba's trade were less than half those forecast for the current fiscal year!

Was there ever such a measure of

Photograph by American Photograph Company

A TYPICAL SCENE IN THE CUBAN CANE COUNTRY

Often one may look to the horizon in every direction, his gaze encountering a sea of green cane, with only fire lines, palm trees, and the big sugar mill to break the monotony of the landscape.

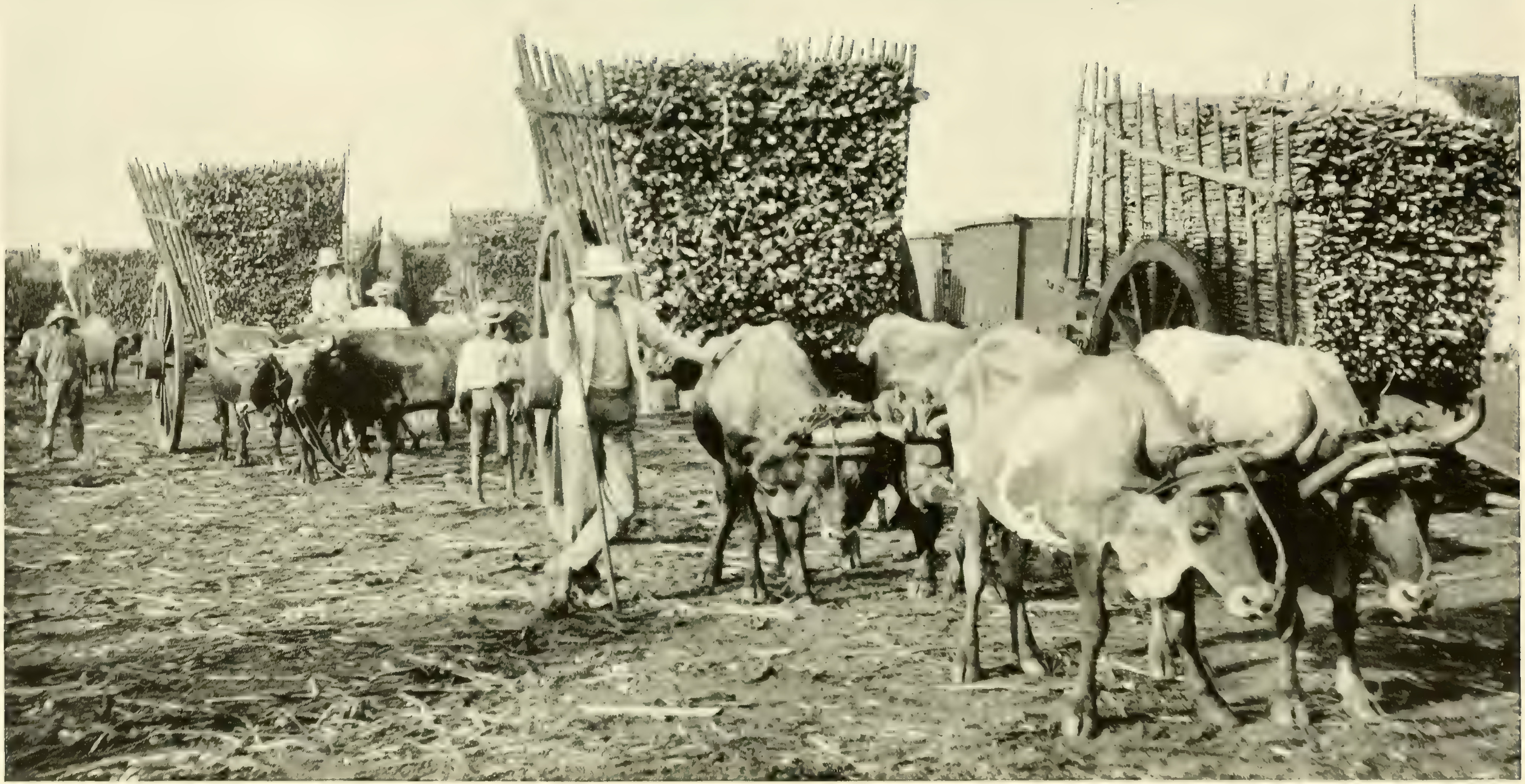
prosperity as that, or such a tribute to enduring peace?

Not all of this wonderful development has been due to the American protectorate, of course. But the writer, who has visited every country that touches the Caribbean Sea and the Gulf of Mexico, and who has studied at first hand the people and the natural resources of Mexico, Central America, the West Indies, and the countries of northern South America, cannot escape the conclusion that a vast deal of Cuba's prosperity, as compared with that of its neighbors, is due to the blessing of stable government and a freedom from the stalking specter of devastating revolution.

Much to be regretted is the lack of satisfactory communication between Cuba and Porto Rico. If it were possible to plan a trip that would carry the tourist to Havana, thence to Santiago, thence to Santo Domingo, and thence to Porto Rico, one could see in a single six-weeks' tour the three stages of Latin-American development under the touch of the United States.

Santo Domingo is a land that long has been revolution-torn, and has only latterly been compelled to travel the path of peace. Its soil is as rich as that of Cuba, its people are not dissimilar, but perennial revolution has prevented its development.

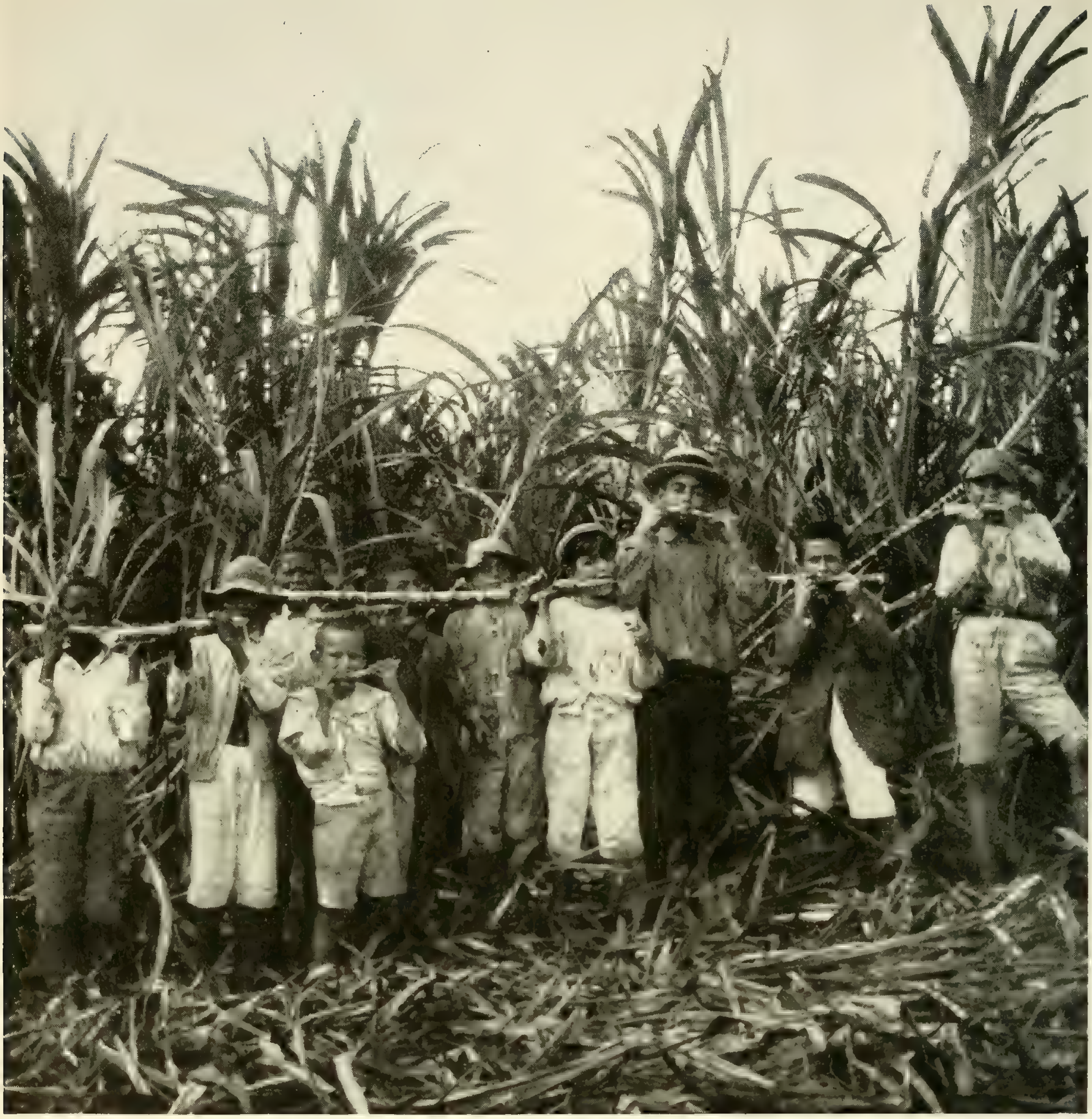
When one gets to Porto Rico one finds a prosperity as great as that of Cuba, education more general than obtains in that nation, and everything possible being done to bring the masses of the people up to standards of living, habits of thought, and freedom from disease that obtain in our own country. What I wrote under the title "The Countries of the Caribbean," in the NATIONAL GEOGRAPHIC for February, 1913, and in "The Wards of the United States," in the August, 1916, number, con-



Photograph by American Photograph Company

WAITING TO UNLOAD CANE AT A SUGAR CENTRAL SIDING: CUBA

The 1920 harvest in Cuba will yield enough cane to load a procession of cane-carts, four abreast, reaching around the earth (see text, page 1)



Photograph by Edith S. Watson

THE SUGAR-CANE ORCHESTRA: CUBA

Everything moves to "the tune" of sugar in Cuba. Here is a little "band" of juvenile cane-cutters in the field. Sugar in the form of candy is not so popular with these island lads as the pure juice of the cane sucked from the stick. This scene may be duplicated all over Cuba from Pinar del Rio to Oriente in cane season. In the background is seen the growing cane.

trasting the progress of Cuba and Porto Rico with other tropical American lands, has been emphasized by later developments.

OVER-ADVERTISING JOHN BARLEYCORN

Many things in Havana beside its remarkable weather during our winter months interest the American tourist. From all the reports current in the United States, it might seem as if principal among these are the drinking emporiums; but, to the honor of the Americans who visit Cuba, it is just to say that the journey of the vast majority of them has had no relation whatever to the enforced flight of John Barleycorn from the shores of the United States. One sees comparatively few Americans drinking, and rarely indeed meets an intoxicated person.

The rank and file of the native popu-

Photograph from F. W. B. Hogge

HARD GOING ON A CUBAN SUGAR PLANTATION

There frequently falls, especially in the eastern part of Cuba, where the cane harvest runs far into the rainy season, as much as three inches of rain during a single downpour. The result is that the rich, deep soil becomes thoroughly saturated, and the teams of oxen have to bring every ounce of their strength into play to keep the cane moving toward the mill.

lation drink, and a large percentage of them order the kinds of drinks whose "authority" is strongly centralized; but the Cuban whisky glass holds little more than a woman's thimble, so that a standard drink is barely more than a sip, and little drunkenness results.

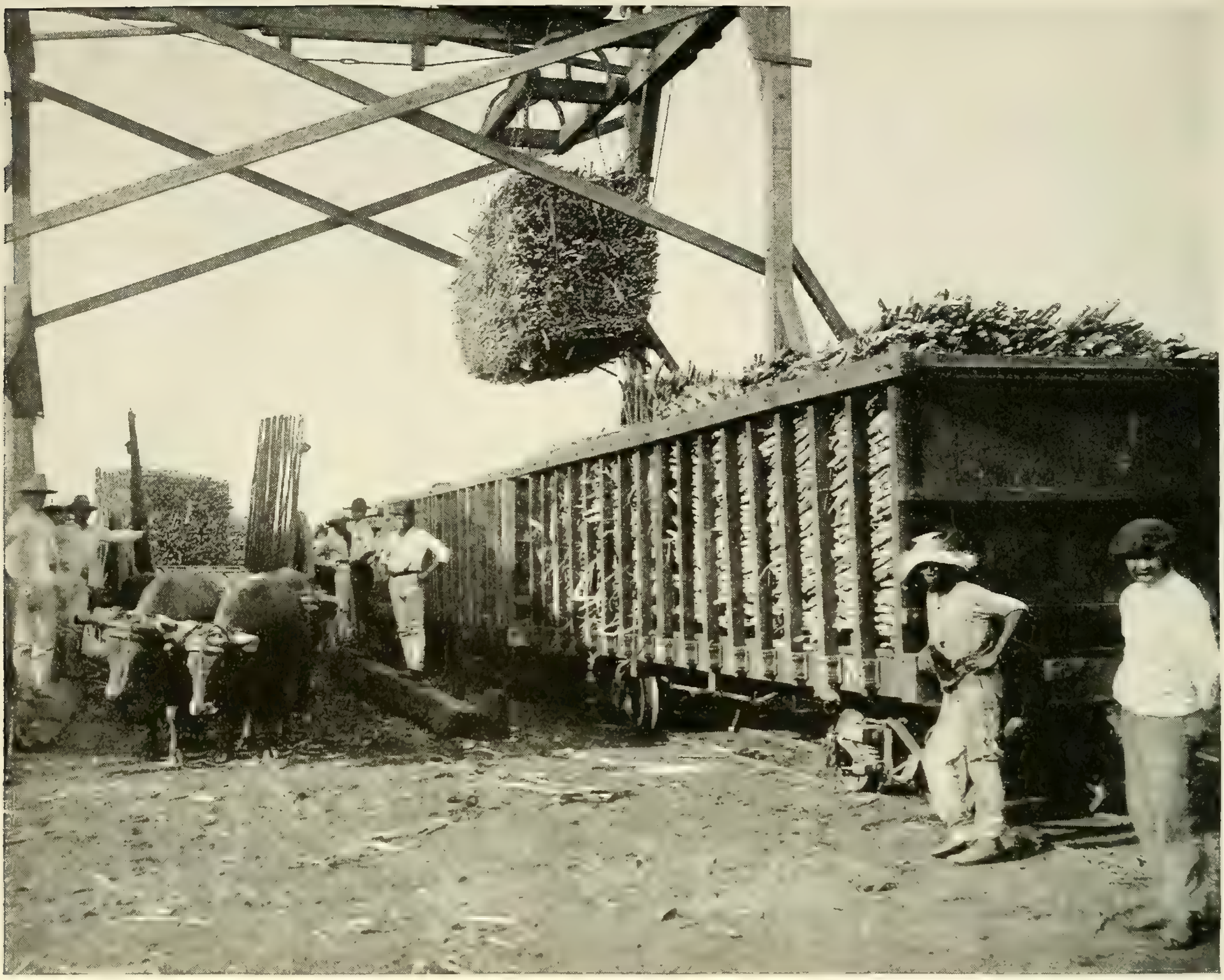
Probably no city has solved the problem of cheap transportation more satisfactorily than Havana. Eight thousand Ford automobiles, operating within a territory whose radius is little greater than a mile and carrying one or two persons between any two points within this territory for the sum of twenty cents, afford an individual transportation service that leaves little to be desired by those to whom the ticking of a taximeter is a matter of moment.

These cars look different from the familiar type one sees in the United States, for they have passed through the hands of Cuban upholsterers before going into commission, and these artists work a complete transformation.

Any one who has visited Havana can appreciate how luxurious a Ford can be made. "Every little Ford has a decoration all its own," might be the title of a Madame Sherry song in that city. The tin and the imitation leather of dashboard, seats, and tonneau give place to mahogany for the dash, whipcord for the body upholstery, fancy carpet for the floor, and wonderful concoctions in rainbow-hued leather for the seats.

In a single car one may see five or six different shades of leather employed in the upholstery. For instance, the basic material may be gray grained leather. This is piped with white and has touches of red, blue, and green to give a piquant effect. The whole is set off by a decoration of silver studs. It may look a little overdone to the staid citizen of the North, but it is an optical feast to the riding public of Havana, and once one is inside the car it seems to transform itself into a royal equipage.

One forgets the lack of springs in the



Photograph by American Photograph Company

TRANSFERRING THE CANE FROM OX-CARTS INTO RAILROAD CARS ON A CUBAN SUGAR PLANTATION

A modern sugar factory, or "central," as it is known in Cuba, may require 250 acres of cane a day to keep it running at capacity. Consequently, great areas of sugar land are tributary to each central, and a complete railroad system is necessary to supply the cane in sufficient quantity. At these field-loading stations the cane is weighed in the loading process (see text, page 27).

cushions and under the car in his wonderment at the Cuban upholsterer's art.

There are no speed laws in Havana, but there is heavy accountability for those who do not respect the rules of the road and who take the right of way of either pedestrian or motorist. The result is that the cars rush hither and thither like mad, but the reflex actions of the chauffeurs' feet and hands are so highly developed that they can start and stop more quickly, and swerve this way and that more adeptly than can be imagined by one who has not seen them. There is certainly much decision of character in a people who can produce such chauffeurs.

The real spirit of the Cuban Government and people toward the Americans who make pilgrimages to Havana is shown in the little booklet of taxi information distributed gratis by the National Police Department.

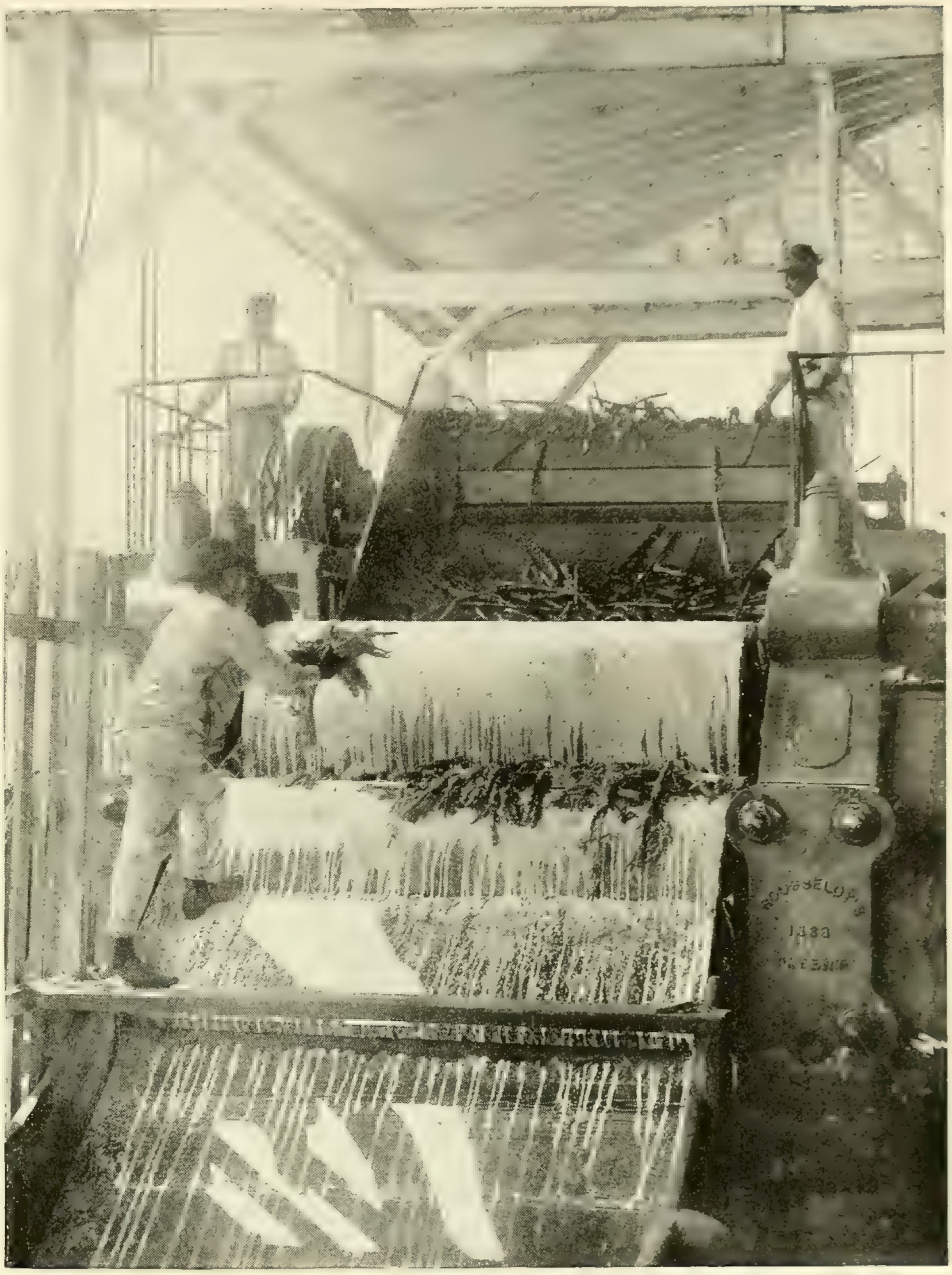
"You, sir," says the booklet, "have temporarily hired, or taken into your service, the vehicle number —. A Bureau of Information has been established, . . . which will furnish you with any information you need. . . . In case of doubt, call the first policeman you meet, who will be glad to help you."

LOTTERY TICKETS EVERYWHERE

The masses of Cuba are lovers of chance. Lotteries flourish like green bay trees, and one has to run the gamut of human types in refusing to buy lottery tickets. Here is a wee bit of a girl, perhaps not yet eight years old, who appeals to you to take a chance because it will help her widowed mother; there a poor old woman of eighty wants you to buy, so that she may get a bite to eat. Now it is the elevator boy in the hotel, now the bootblack in the barber-shop. Everywhere you turn, a lottery ticket is before you and a vendor begging you to buy.

One regrets that there is no effort made to ban this business; but the Cubans seem to take it as a matter of course, and the masses are ever ready to take another chance with each passing drawing.

Every city and town in Cuba has its cockpit, and some of them possess several. Sunday is a busy day for the roosters and their backers, and the enthusiasm with which the habitués of the cocking main wager their pesos on their favorites is unlimited. The uninitiated spectator wonders how it is possible to unscramble the bedlam of noise and to follow the changing odds.



Photograph by American Photograph Company

CRUSHING CANE IN A CUBAN SUGAR MILL

Hour after hour, day after day, week after week, the unending procession of cane is drawn into the crushing machinery and the sweet sap flows out. It is then mixed with whitewash and the impurities removed as the evaporation process proceeds (see text, page 27).

PLAYING JAI ALAI

In the whole range of professional sports there certainly has never been devised a more thrilling game than *jai alai* (pronounced high-a-ligh), which has been transplanted into Cuba from Spain.

It is a game that differs from tennis in that the court is a rectangle 210 feet long and 36 feet wide, with one side wall and two end walls. The floor is of cement and the walls of carefully laid stone. Instead of the players arranging themselves on opposite sides of a net, as in tennis, and batting the ball back and forth with rackets, they occupy in common the playing space of the court. One side serves the ball against the end wall, and on the rebound the other side must drive it back against the wall. Thus it is kept flying from players to wall and from wall to players until one side fails to return it to the wall, when the opposing team scores a point.

Instead of rackets the players use basket-woven affairs, crescent shaped, with one end laced to the right hand and

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RAW SUGAR FROM CUBA BEING TRANSFERRED FROM SHIP TO LIGHTER IN NEW YORK HARBOR ON ITS WAY TO A REFINERY IN JERSEY CITY

A fleet of sugar ships—one for each mile that stretches between Havana and New York, and each carrying upward of eight million pounds of sugar—would be required to move Cuba's present crop (see text, page 1).

the other end free. The crescent is only about a foot long and three inches thick.

A team of two players has to protect an area of 7,500 square feet, and sometimes is forced to catch a ball on the rebound from the wall at the far end of the court. To do this with such a narrow instrument as the cesta requires the utmost agility, the closest calculation, and the most astute judgment.

"MORE EXCITING THAN BASEBALL"

Speaking of the game, a recent writer says: "Jai alai, the national game of Spain, is one of the most delightful things Americans discover in Cuba. It is more exciting than baseball, squash, and polo combined. Resembling tennis, inasmuch as it is played on courts by four men, it carries the onlooker on the crest of a wave of such suspense and thrills that he is enervated at the end of each game from sheer emotion.

"Americans who have been content to howl 'take him out!' and 'attaboy!' stand on their feet and yell half an hour at a time when they see the four players from Spain in a contest that strains every muscle and forces the perspiration from every pore, so that the clothing is dripping by the time the first round is played. Not one frenzied spectator of the 4,000 ever sits down or stops yelling except in the intermission. Jai alai is no place for a contemplative attitude."

SOME OF THE WORLD'S LARGEST CLUBS IN HAVANA

Havana has some of the largest clubs in the world. There are no more clannish folk anywhere than the people from the several provinces of Spain. Those who have come from Galicia and their descendents have their club; those from Asturias have theirs, and so on. The Centro Gallego, or club of Galicia, has 43,000 members, and its club-house, which includes the National Theater, cost nearly a million dollars. The Centro Asturiano has a membership of 36,000. The Clerks' Club has a membership of 30,000. The dues in each club are $1.50 per month, and each maintains its own hospital and sanitarium.

Cuba has six provinces, the largest, Oriente, having an area somewhat larger than the State of Maryland, and the smallest, Havana, being slightly larger than Delaware. Yet each is so different from the other five that it is hard to dismiss them with a word. The very atmosphere seems different.

At the westernmost end of the island is the province of Pinar del Rio. It produces less sugar than any other province, and therefore is the least prosperous, even though it does produce the finest tobacco in the world.

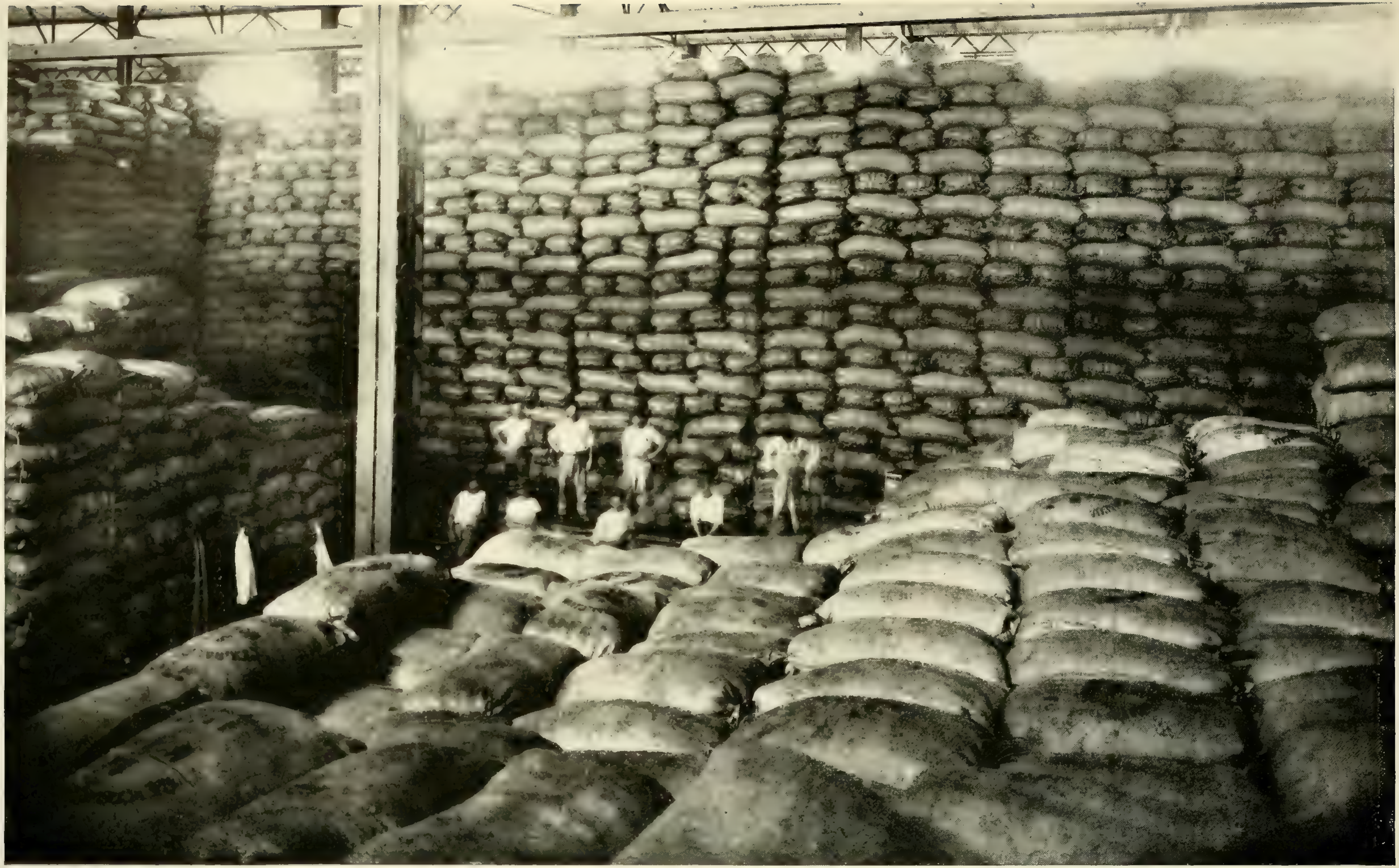
As one travels through the province, all the intrusions of American civilization are left behind, the terminal moraines of Anglo-Saxon culture are swallowed up in the plains of native life, and the only thing that sounds or looks homelike to a Washingtonian is the whistle of a locomotive and an occasional box-car, bearing the name of a railroad in the States, which came across Florida Straits on the Key West-Havana ferry, loaded with flour, and will carry a load of sugar back to the Middle West.

The towns are thoroughly Latin, and the country districts, except for an occasional tobacco plantation and a few sugar centrals, seem entirely given over to a black and mulatto population, which appears content to live in thatch-roofed shacks.

PIGS, PONIES, AND GOATS

The animal life of Pinar del Rio province consists largely of dogs, chickens, pigs, ponies, and goats, in numbers ranking in the order named. Dogs one sees everywhere—little dogs, big dogs, lean dogs, fat dogs, but all of them lazy dogs. Of chickens, each shack-hold has a few, none of which would take a prize at a poultry show, though some of them might hold their own at a cocking main.

There are many pigs to be seen as one journeys through the country, but most of them are of an architectural outline that makes the Appalachian razor-back seem a prosperous porker. Each one of them is anchored fast to a peg in the ground, tethered by a rope. This is made fast to the pig in a fearful and wonderful way. If the noose were fastened around the neck only, his porkship could back out without difficulty, since his head is usually smaller than his neck. So it is passed around the pig in front of one shoulder, and behind the opposite leg,



Photograph by American Photograph Company

MOUNTAIN OF SUGAR AWAITING EXPORT IN A CUBAN WAREHOUSE

Each of these bags contains 325 pounds of sugar, and, at prices now prevailing in the Cuban export market, is worth about fifty dollars. Before the war the Cuban sugar industry was producing sugar at $1.35 a hundred pounds and selling it at $2.62. Today the same kind of sugar brings $16.00 or better a hundred pounds (see text, page 23).

and then drawn tight enough to keep him from backing out of it or creeping through it.

The horses one sees in rural Pinar del Rio are between the Texas and the Shetland pony in size and so thin that one wonders that they can make a shadow. The white splotches all over their bodies are eloquent witnesses to the countless times that saddle and harness and spur have laid bare the raw flesh. Though the ground will grow two crops of corn a year, the Pinar del Rio pony never sees an ear of it and must be content to subsist on the grass in the plot of which his tether is the radius.

Milch goats, which are the cows of Pinar del Rio, seem to be the one species of animal able, as a class, to look fat and sleek.

Havana Province is more prosperous, looks half American, and seems like southern Florida and cane-growing Louisiana in one. Crossing the boundary into Matanzas Province, one gets deep into the sugar belt. Vast areas as flat as a floor are covered with sugar-cane. On every horizon the green of the growing cane meets the blue of an arching sky, with a huge sugar central—a sugar mill and radiating railroad—in every landscape.

IN THE EASTERN PART OF THE ISLAND

Santa Clara Province lies next to the east, and one finds here, as one travels to its eastern border, the sugar industry gradually yielding place to the cattle-growing business, which in turn reaches its high tide in Camagüey. This latter province has wonderful areas of guinea-grass and other pastures on which cattle get as fat and sleek as if feasting on ensilage and cotton-seed meal on an Iowa farm.

Camagüey is a little larger than Vermont, while Santa Clara is about the size of New Hampshire.

Oriente is the Texas of Cuba, the largest and the newest of the bonanza lands within the Island Republic. A few years ago the soil of Oriente was thought unfit for sugar-growing, but today it produces more than any other province, and its development is only well begun. The largest centrals in the whole island are located there.

Cuba's principal iron deposits also are in Oriente. At Daiquiri, on the south coast, is a veritable mountain of hematite ore, which, under the sway of the American steam-shovel, has been terraced until it seems to be a vast pyramid.

On the north coast are large deposits of ore-bearing mud, which, when sufficient drying facilities are installed, promise to yield millions of tons of iron ore right at deep water. That Cuban ores will compete with Minnesota and Michigan ores at the eastern furnaces, in the years ahead, is the belief of those who know the situation.

ENGLISH IN CUBAN SCHOOLS

Cuba has just begun an experiment fraught with many possibilities in Latin-American relations. Many forward-looking Cubans have come to realize that Spanish is no longer the chief language of commerce, and that the inability of the people to speak English is a barrier to progress, since most of the business of the Republic is done with English-speaking people.

Therefore, experimental schools in English have been established, and the progress being made justifies the hope that in a generation or two Cuba will place herself in linguistic accord with the peoples with whom she has to deal.

I visited one of these schools, and the work being done was both a revelation and an inspiration. The teacher was a young woman of Cuban extraction, born and educated in New York. Her class had in it a score of typical Cuban boys, sons of small merchants and work-a-day folk.

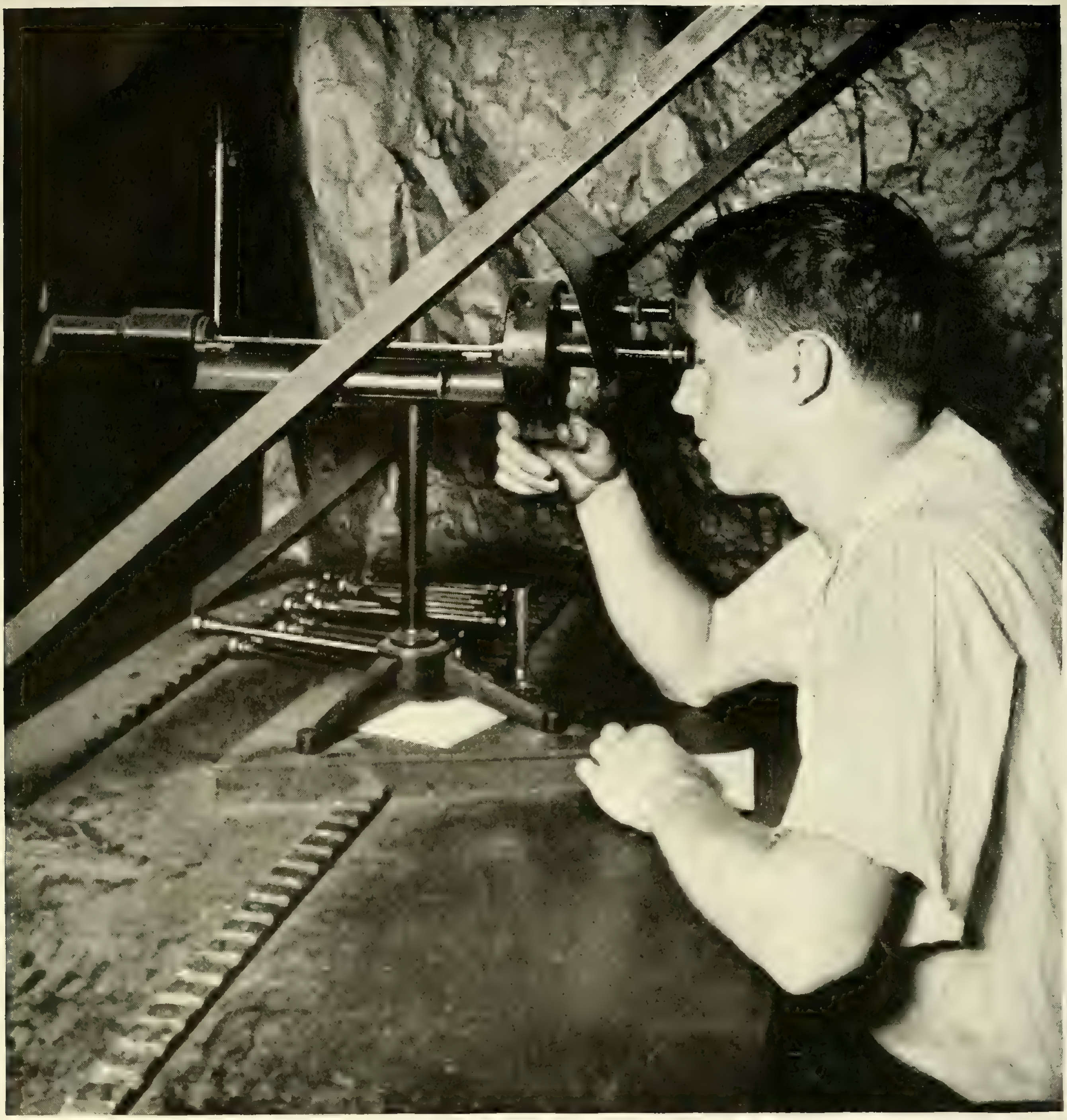
The teacher was a born instructor. "Now I sing and laugh with joy. What do you say of me when I do that?" she queried.

"You are happy," responded the chorus of youngsters, their voices as much "in step" as a West Point cadet company.

"Now I bury my face in my hands and the tears flow from my eyes. What do you say I am doing?"

"You are crying," they responded as one.

"What is the subject and what the predicate in the sentence, 'I cry'?" she queries. "'I' is the subject and 'cry' the predicate," they respond. "'I' is a pro-



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OPERATING THE POLARISCOPE IN A SUGAR-MILL LABORATORY

If a wind is blowing through a paling fence, only the straws carried in a vertical position by it can get through. The others are stopped by the fence. In the same way, only those rays of light which are, let us say, upright can get through the prism of a polariscope. These are called polarized rays. If they are passed through a solution of sugar, after passing through the prism, they are no longer upright, but lean to one side, so to speak, and are therefore unable to get through a second prism, which looks dark to the operator. He turns this prism around until its axis is parallel to the plane of the rays of light seeking to pass through it, and the distance he has to turn the prism before the light can come through tells him exactly how much the rays were deflected from an upright position in passing through the sugar, and therefore exactly how pure or impure the sugar solution is (see page 30).

noun, first person, singular, and 'cry' is the present tense of the verb 'to cry,'" they answer.

And so it goes. Every boy is so eager to answer that as a class they seem almost to fall over themselves in their effort to be first. They show a quickness in grasping the significance of number, tense, and mood that amazes the beholder. Under such a teacher, learning English is plainly a joy to the pupils. As soon as the teacher problem can be met adequately, the language of Shakespeare and O. Henry will be widely taught in the public schools.

CUBA'S SUGAR INDUSTRY

As stated in the beginning of this article, sugar is king in Cuba. Even in normal years it is the principal source of wealth. But with the restraints of "price-fixing" regulations removed, 1920 is destined to outdo any other year in the history of the industry.

Sugar-cane is grown by three classes of planters in Cuba. Perhaps the major part of the crop is grown by share farmers, or "colonas," as they are called. The owners of the sugar-mills furnish them with a given number of acres of land to plant and give them an agreed share of the sugar they produce.

The next class is composed of the land-owning farmers, who grow their own cane and have it ground on shares, after the fashion of the rural grist-mill. The remainder of the cane is grown by the owners of the mills themselves. At some centrals the "administration" cane, as that grown under "central" management is known, amounts to only 4 per cent of the total; at others it amounts to 90 per cent.

THE PROFITS OF THE PLANTERS

Even the share farmer, at pre-war prices, made money. According to "Cuba Before the World," the official handbook of the Republic at the Panama-Pacific Exposition, when sugar was selling at 2.62 cents a pound, his share of the sugar brought him, on the basis of twelve sacks to the acre, a return of from $46 to $51 per acre. The return of the planter owning his land was from $56 to $61 per acre. When one remembers that the selling price of sugar is from four to six times as high in 1920 as it was then, the size of the per-acre income today is apparent.

How much net profit the cane-grower reaps at 1920 prices is hard to estimate, but that it is large will appear when the methods of cane-growing are stated. To begin with, after the first crop the planter does not have to bother with seed-time for about ten years. The soil is so deep and so fertile that one planting produces ten harvests. Neither does cultivation bother him after the first season, for the blades stripped from one crop form a mulch that keeps the weeds from competing with the next one.

Think of the profits that the American farmer would make out of corn if he could get ten crops from one planting, and did not have to plow nine of them at all to keep down the weeds!

THE WORLD'S CHEAPEST MOTIVE POWER

Another item in the low cost of producing sugar is the cheapness of the motive power. The cane is hauled in ox-carts. The oxen live from six to ten months a year on the blades stripped from the harvested stalks, and the remainder of the year on succulent guinea-grass. Think how prosperous would be the American farmer if he could have animal motive power requiring not a pound of grain to feed it!

A great deal of the cane land produces much more sugar to the acre than the modest twelve bags that formed the basis of the calculations cited from "Cuba Before the World." According to figures furnished the writer by the Cuban Department of Agriculture, much land produces 22 bags to the acre. This, at 15 cents a pound, brings a gross return of more than $1,000 an acre.

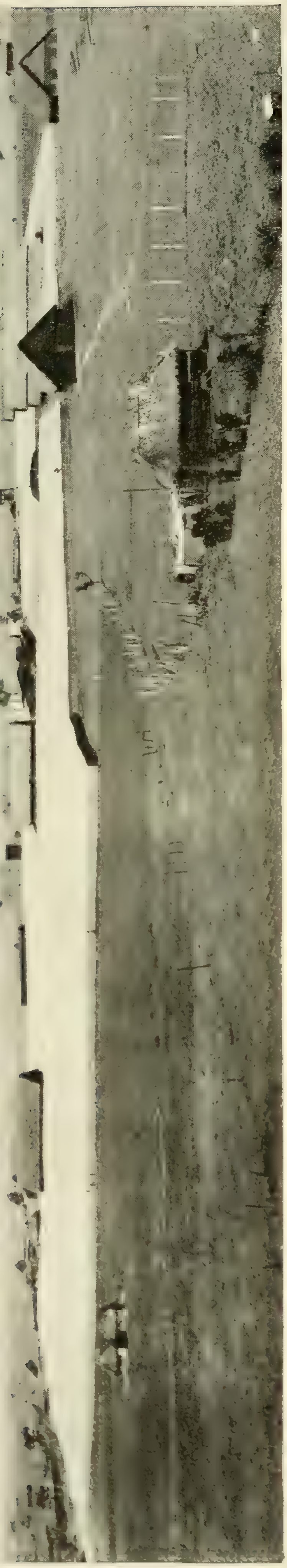
These conditions have brought about an unprecedented boom in sugar lands. One sugar estate, which was bought some three years ago for $3,000,000, sold last January for $9,500,000. Another, which was valued at about $6,000,000 a few years ago, changed hands at $15,000,000.

Numerous new "centrals" are being built and others projected, all being capitalized on the basis of this year's earnings. Thousands of American capitalists are investing in these flourishing enterprises.

That the famine scale of prices of this year will not continue is the opinion of those who are in a position to know. Just as soon as the European sugar beet comes back into cultivation, price levels are bound to fall.

Many warnings have been sounded about the singularity of the source of Cuba's fortune. Economic safety is opposed to having too many of one's eggs in a single basket. But Cuba believes in making hay while the sun shines, though that hay be sugar and that sun the sucrose hunger of the world.

How her receipts from sugar have expanded is shown by the fact that the 1915



Photograph by American Photograph Company

GENERAL VIEW OF A FAMOUS TOBACCO FARM IN THE VUELTA ABAJO REGION OF PINAR DEL RIO

Large areas are covered with cheese-cloth, under which the finest wrapper tobacco is grown.

crop brought a total return of less than two hundred million dollars, while the 1920 crop will bring more than a billion dollars.

A ROMANCE OF MODERN INDUSTRY

The story of cane and the production of sugar from it is a romance of modern industry.

The first that the western world knew about sugar was when traders from India brought to England a substance of amazing sweetness, which the Londoners called "Indian salt."

It was so pleasing to the occidental palate that the plant from which it was made was brought out of Bengal and cultivated around the world. Today it belts the earth wherever long summers reign and plenty of moisture and soil fertility are found.

For many centuries it was propagated by planting after the fashion of potatoes, short pieces of the upper section of the stalk being put into furrows and covered. This was done so long that practically all of its ability to set seed, like the Irish potato and the horse-radish, was bred out of it.

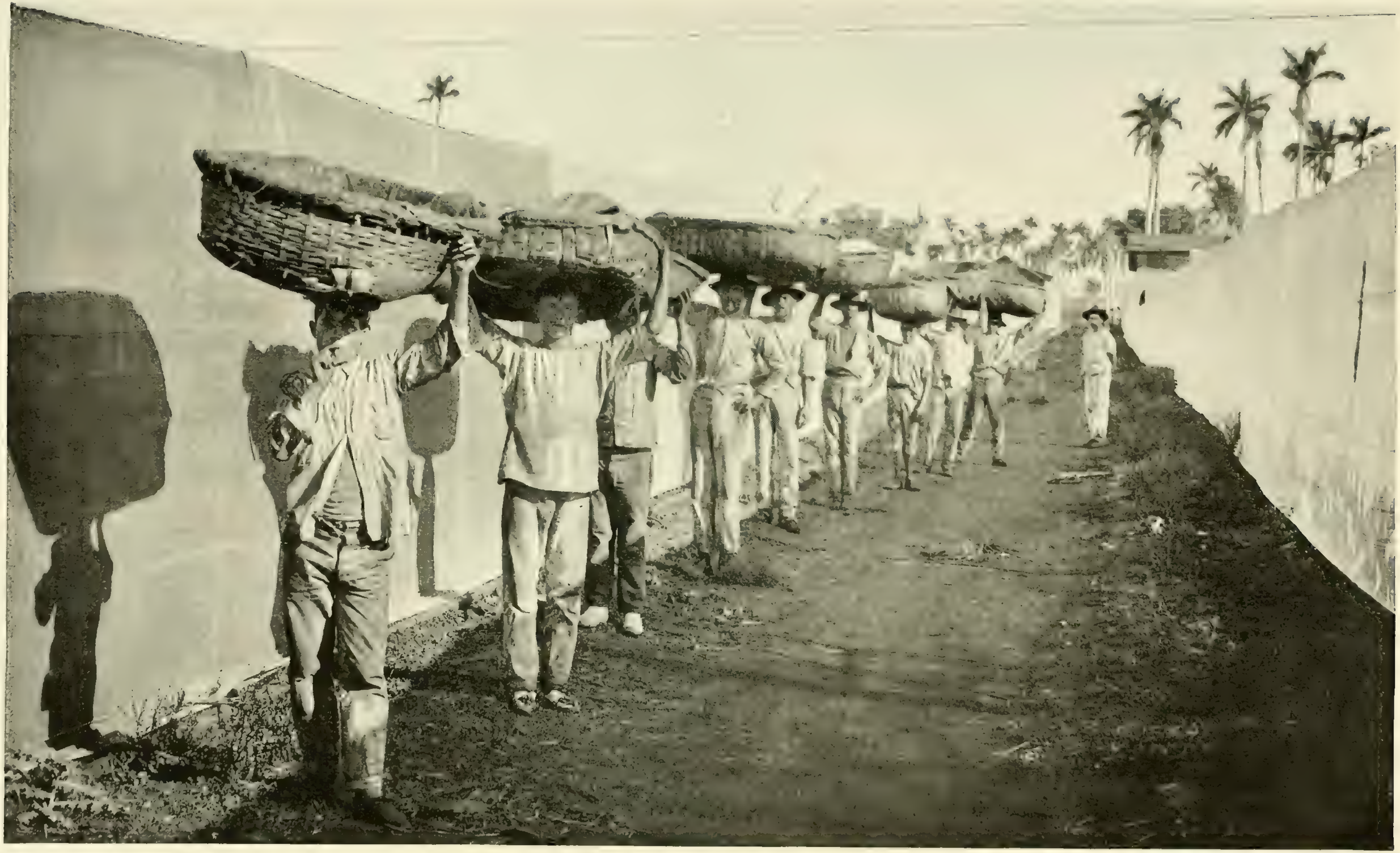
One day an English physician living on the little island of Trinidad, on the north coast of South America, told a sugar-planter that the grass-like plants coming up here and there in the cane fields were in reality survivals of the time when cane set seed. The planter laughed at him and said they were nothing but stalks of grass.

Both were right, for cane is a grass, and the plants in question did bear seed. From that little observation has grown the improvement of the cane of the world, which has resulted, through the introduction of improved varieties, in billions of pounds of sugar being supplied to man that, under other conditions, could not have been produced.

Cuba has the advantage of every other country in producing sugar cheaply. Most countries have to plant every two years and some of them every season, but the average in Cuba is once in from 7 to 12 years.

THE CUBAN SUGAR SEASON.

In most parts of the island the harvesting season is six months long—from December to June; but in some sections



Photograph by American Photograph Company

CARRYING LEAF TOBACCO FROM THE FIELD TO THE STOREHOUSE

Although there probably have never been as many people in the world suffering from sheer hunger as today, neither has there been such a demand for high-priced cigars as now. Every factory in Cuba is far behind its orders and is begging its customers to buy just as few cigars as possible, in order that there may be enough to go around. Furthermore, the demand is for a much higher grade of goods than was formerly required.

Photograph by American Photograph Company

GATHERING THE MATURE LEAVES IN A CUBAN TOBACCO FIELD

The most famous tobacco in the world grows in the westernmost province of Cuba—Pinar del Rio. The planter frequently gets as much as five thousand dollars an acre for his crop. In order to keep their product uniform, many manufacturers own their own farms and spend fortunes in fertilizers to keep the soil in the condition requisite to meet the most exacting demands for flavor, texture, and yield.

the harvest lasts from the first of December to the first of October. The fields are so planted in the first place that each month of the grinding season produces its own crop of mature cane. Here is a group of fields where the new crop has just sprouted; over yonder another group where the cane is half grown; and on farther is a group where harvesting operations are in full swing.

In harvesting, the cane-cutters first strip the blades from the stalk; then they cut off the upper part of the latter, which is worthless except for replanting, since what juice it contains possesses very little sugar. One of the strange things about sugar-cane is that the sap of the growing plant has little sugar, while in the mature stalk the juice is rich in sucrose. The action of the sun's rays seems to transform glucose into sucrose—a transformation that cannot be accomplished by human means. If man knew how to do that, every corn-field would be a sugar-field.

The main body of the stalk is cut down and loaded into the ox-carts as shown on page 13. In these it is hauled to the field station and placed in the waiting cars. Each car contains about twenty tons and each train is made up of thirty cars. This makes six hundred tons of cane to the trainload, and eight to ten trainloads a day are required to keep one of the bigger centrals in operation for twenty-four hours. The big United Fruit central, at Preston, requires the crop from 250 acres every day to keep it busy. Imagine a field three-fifths of a mile square being harvested between sun-up and sundown to keep one central going!

WHEN THE CANE REACHES THE MILL

When the cane reaches the mill in the most modern plants, the cars are run, one by one, into a cradle and made fast thereto. A button is pressed and the cradle rocks over on one side. The side of the car swings loose and the load rolls out into a deep trench, at the bottom of which is an endless steel belt.

On this belt the cane is carried up to the crushing rolls. A man stands before a keyboard and by pressing the several electric buttons thereon regulates the flow through the crusher, which disrupts all the little sap cells and releases a great stream of foamy juice, as shown on page 17. Then the crushed cane is sent through sets of rollers. each time under heavy pressure.

Each set of rolls the cane passes through presses it harder than the one before. The last set may exert a pressure of a million pounds, and when the "bagasse," as the crushed cane is called, issues from them it is almost as dry as tinder. It is carried by conveyers to the fire-boxes of the boilers, where it is used as fuel in generating the steam that drives the big mills and boils the cane juice. The stream of crushed cane flows through the last set of rolls at a speed of seven miles a day.

MIXING WHITEWASH WITH CANE JUICE

Imagine big gear-wheels fourteen feet in diameter, with cogs sixteen inches long. three inches deep, and two inches thick on their face. Such are the trains of gears that transmit the power from the engines to the rolls.

After the juice is pressed out of the cane it is thoroughly strained and pumped into big tanks at the top of the building, where a milk-of-lime solution—in other words, plain whitewash—is added.

The mixture is then heated to a degree just above the boiling-point. The lime neutralizes the acid in the juice and finds affinities in some of the foreign substances. It pulls these to the bottom and plays the same rôle of purifier in the making of sugar that it plays in the making of iron. The heat causes the other impurities to rise to the surface as scum, so that when this preliminary process is completed in the big settling tanks there is a top layer of froth, a middle layer of clear juice. and a bottom layer of mud-like solid material.

The clear juice is drawn off and passed through filters of excelsior. It is then pumped to the evaporators, where about half of the water is boiled out of it.

HOW THE MODERN EVAPORATOR WORKS

In the more modern factories there is a chain of four evaporators working together. We all learned in our school days that the lighter the air pressure. the lower the temperature at which liquids boil. The sugar manufacturer makes use of that principle in his factory. By means of air pumps he reduces the atmospheric pressure in each evaporator to a point below that of the preceding one.

The steam that boils the juice in the first evaporator must have a temperature of 215° Fahrenheit. When this steam falls below that temperature it passes into the coils of the second evaporator. where the air pressure is so reduced that the partially cooled steam makes the liquid boil at 203°. After it falls below that point the steam passes on to the third evaporator. where, with a still further reduced air pressure, it is able to keep the syrup boiling until it falls below 180°. The fourth evaporator has the air pressure reduced to a practical vacuum. The steam that has lost so much of its heat as to be unable to maintain the boiling-point in the third is nevertheless hot enough to keep the juice boiling in the fourth. Here only 150° of heat is needed

Photograph by American Photograph Company

CURING WRAPPER LEAVES IN A CUBAN TOBACCO BARN

The best Havana cigars are made from tobacco that has undergone a curing process lasting more than two years (see text, page 32).

to maintain the boiling process. By this arrangement the juice is boiled to the proper consistency with only one-fourth of the heat otherwise required.

The next step in the making of sugar is to draw the thick juice into the vacuum pans. Here it comes into contact with hot steam coils and boils at a very low temperature because of the absence of atmospheric pressure. As the boiling proceeds, the sugar crystallizes into small grains. The man in charge of a big vacuum pan is known as the sugar master. From time to time he adds fresh juice, and its sugar gradually settles on the crystals already formed, which thus are made to grow larger.

Finally the vacuum pan becomes full of sugar and mother syrup. The sugar and the adhering syrup are then removed to a centrifugal machine that acts somewhat on the principle of a cream separator. Placed inside a perforated basket and whirled around at from 1,000 to 1,400 revolutions a minute, all of the syrup is forced out through the perforations, while the crystallized sugar remains behind.

This syrup is boiled again, after which it goes to the crystallizer, a huge revolving tank, in which a seed bed of crystals from the vacuum pan has been prepared. There it gradually deposits its sweetness on these crystals, and, when it has given up all that is worth waiting for, the mixture goes back to the centrifugal machines, where its adhering syrup is hurled out from this second lot of crystals. The process is repeated again, and by this time all the available sweetness has been extracted, and the remaining liquor is the "blackstrap" molasses of commerce.

THE PRINCIPLE OF SUGAR EXTRACTION

The principle of producing sugar is embodied in the fact that water can hold only a given amount of sucrose in solution. As the water is driven out of the cane juice the latter finally reaches a stage where there is not enough left to

Photograph by American Photograph Company

SEWING WRAPPER LEAVES TOGETHER PREPARATORY TO HANGING THEM UP TO CURE IN A CUBAN TOBACCO BARN

Before the leaves to be used as wrappers can be cured, the stems of two of them are sewed together, and they are then hung across a lath or string, saddlebag fashion, and placed in the curing barn (see text, page 31).

hold all the sugar dissolved, and as evaporation proceeds, the sugar, deprived of its water, is compelled to pass out of solution into crystal form.

A ton of sugar-cane yields 4½ gallons of blackstrap molasses, and one gets a good impression of the immensity of the industry when, on a single day's rail journey, he meets a dozen solid trains of some forty big tank cars each, and every car full to the dome with blackstrap.

Over every operation in the manufacture of sugar one little instrument presides—the polariscope. It is the court of last resort, the final judge, in the making of sugar. Does this field produce cane rich in sugar? Is that mill extracting its proper percentage of juice out of the crushed cane? Is that juice yielding up its proper share of first-grade sugar? Does any available sugar remain unextracted in the blackstrap? Is this sugar pure enough to meet the importer's tests?

All these questions are put to the polariscope by the mill manager, through the chemist, and it never fails to return a full and convincing answer (see page 22).

What manner of mechanism is this that can thus render these dependable verdicts, and what strange laws of nature lend it the power it possesses?

To begin with, one must remember that light is a matter of vibrations. According to the physicists who have developed this wonderful instrument and given it the power to guarantee the sweetness that goes into our coffee cup, a ray of bright light is a matter of five hundred trillion vibrations a second. These come at every angle and hence fill up all the space they reach. If these came at the rate of only one a second, a person would have to live two million years to get as much light in his eye as now comes between the ticks of a clock.

THE POLARISCOPE'S TASK

But by a peculiar grouping of lenses and mirrors the scientist is able to strain out all of the crisscross vibrations and use only those which move in a given direction. When these one-direction rays are passed through certain materials they thereby have their direction changed to the right or left. Sugar turns them to the left.

In most polariscopes used in testing, a strong white light passes through a lens and then to a prism made up of two wedge-shaped pieces of Iceland spar cemented together with a film of Canada balsam. This prism excludes all of the crisscross rays, as a paling fence excludes the passage of all wind-blown straws except those that present themselves upright to the openings between the palings. The remaining single-direction rays, or polarized light, pass through the solution which is to be tested and are rotated to the left. They next enter another prism like the first. A pointer attached to thumb-screw is moved as the operator adjusts the prism to correct the rotated rays as they emerge from the sugar solution.

When the operator looks into the eyepiece at the opposite end from the light, he sees a distinct shadow on the lens, one side being light and the other dark, this being due to the inability of the rays to get through the prism until the "paling" of glass is made perpendicular to the "straw" of light. He turns the thumbscrew until the shadow disappears, and then looks to see where the pointer rests on the scale. Its position is the polariscope's answer to his questions.

BAGGING THE BIG CROP OF SWEETNESS

After sugar has come from the centrifugals it goes to the bagging-room, where it is put into bags that hold 325 pounds each. These are hauled in trainloads to the docks and shipped to the United States, where the big refineries remove the impurities and transform the sugar from dirty yellow to immaculate white.

A visit to a big plantation like that at Preston is an impressive experience. It is a small empire within itself, having its own railroad system, its own police department, its own hospital, its own fire department. It covers 280 square miles of territory, possesses a population of nearly ten thousand, and has nearly twelve hundred buildings. Its railroad system has 121 miles of standard-gauge railroad track, 25 standard American locomotives, and nearly 800 railroad cars. About 5,000 oxen are required to haul the cane to the field sidings of the Preston railroad.

Adjoining it is the Boston plantation, owned by the same company, and together they constitute what is believed to be the largest compact sugar property in the world.

WHERE TOBACCO RULES

Sugar is supreme at the eastern end of the island, but tobacco holds the top position at the western end. Pinar del Rio tobacco soothes the nerves of men of affairs the world over. There are all kinds of tobacco-growers, from the rich "veguero," with scores of acres of the finest Vuelta Abajo wrapper, grown under cheese-cloth, to the poor thatched-hut dweller, with his little patch that produces nothing but cheap filler.

Profits in growing tobacco are proportionate to the care expended in its cultivation. The poor denizen of the low country may get $50 out of his acre, while the rich "vega" of the rolling upland region may bring its owner $5,000 an acre.

The finest tobacco lands in Pinar del Rio are on the south side of the range of mountains that extend through the province from east to west, midway between

Photograph by American Photograph Company

A CART-LOAD OF BALED TOBACCO AS IT COMES INTO THE HAVANA WAREHOUSES FROM THE FARM WHERE IT WAS GROWN

No cart is too humble to be drawn by a mule caparisoned as for a parade. Note the bells on the hames and the tassels suspended from the headstall of the bridle. The Cuban is exceptionally fond of the ornate, whether in language, architecture, or harness.

the Gulf of Mexico and the Caribbean Sea, in a well-watered, rolling country, full of natural beauty and possessed of a climate as mild and sweet as the fragrance of the cigar whose raw material grows there. The soil is chocolate-colored, from two to ten feet deep, and gets its peculiar qualities from the volcanoes that once were active there.

In growing Vuelta Abajo tobacco, seed is taken from the first growth of strong and sturdy plants and placed in plots of virgin soil near the fields. When the seedlings reach a proper state of development they are transplanted in the fields. Fertilizer is selected by chemical analysis of both the soil and the tobacco whose flavor it is desired to reproduce. A mulch of from two to three inches of partly decomposed hay is put over the ground to keep down the weeds and to provide vegetable matter as plant food.

In cutting the tobacco great care is taken that it shall have reached the proper degree of ripeness. Green tobacco produces a harsh, acrid smoke; that which is over-ripe does not work up well in making the cigars; that which the sun "has cooked to a turn" produces a mild, smooth, cool, and fragrant smoke.

TWO YEARS TO CURE HIGH-GRADE LEAF

In curing, the leaves are suspended on poles which are put in racks, first in the sun and then in the curing barns. In the latter they hang for several weeks, their color changing from the green of the growing plant to the brown of the finished cigar.

When this stage of the curing process

Photograph by Walter RuKeyser

DRYING JUTE FIBER AT MATANZAS: CUBA

If the Cuban people were not so busy growing sweets and making "smokes" for the world, they might make fortunes out of fiber production, as the sisal kings of Yucatan have done; for fiber plants thrive like bay trees under the flag of Cuba Libre.

is completed the leaves are put into heaps and left to "sweat" for several days. After that they are placed in bales of about 100 pounds each and shipped to the storage warehouse. There they ferment and undergo a further curing. This process continues from one to two years, according to the grade of the leaves, before they are regarded as fit to be rolled into cigars.

From storage the tobacco goes to the cigar factory. Here the bales are opened up and sprayed with clear water and allowed to stand until each leaf becomes moist and pliable. After this the leaves intended for fillers are placed in hogsheads for further curing, which requires from two to six weeks, depending on the grade of the tobacco.

The wrapper leaves are selected with great care. The cheesecloth under which they were grown kept out insect enemies and protected them from heavy rains. Any leaf that has a hole through it is retired to the humbler rank of filler material.

The cigar-makers are employed on piece-work basis, getting an agreed sum for every hundred cigars made. Each man is given an allotment of tobacco sufficient to make a given number of finished "smokes." Hundreds of these workmen occupy a single room.

PROFESSIONAL READERS HIRED

In order to get something out of life beyond the mere drudgery of rolling fine cigars for fastidious smokers, the cigar-makers club together and employ a reader. This gentleman is usually a bland sort of fellow, with a musical, soothing voice. He has a little perch about five feet above the heads of the workmen, in the center of the room.

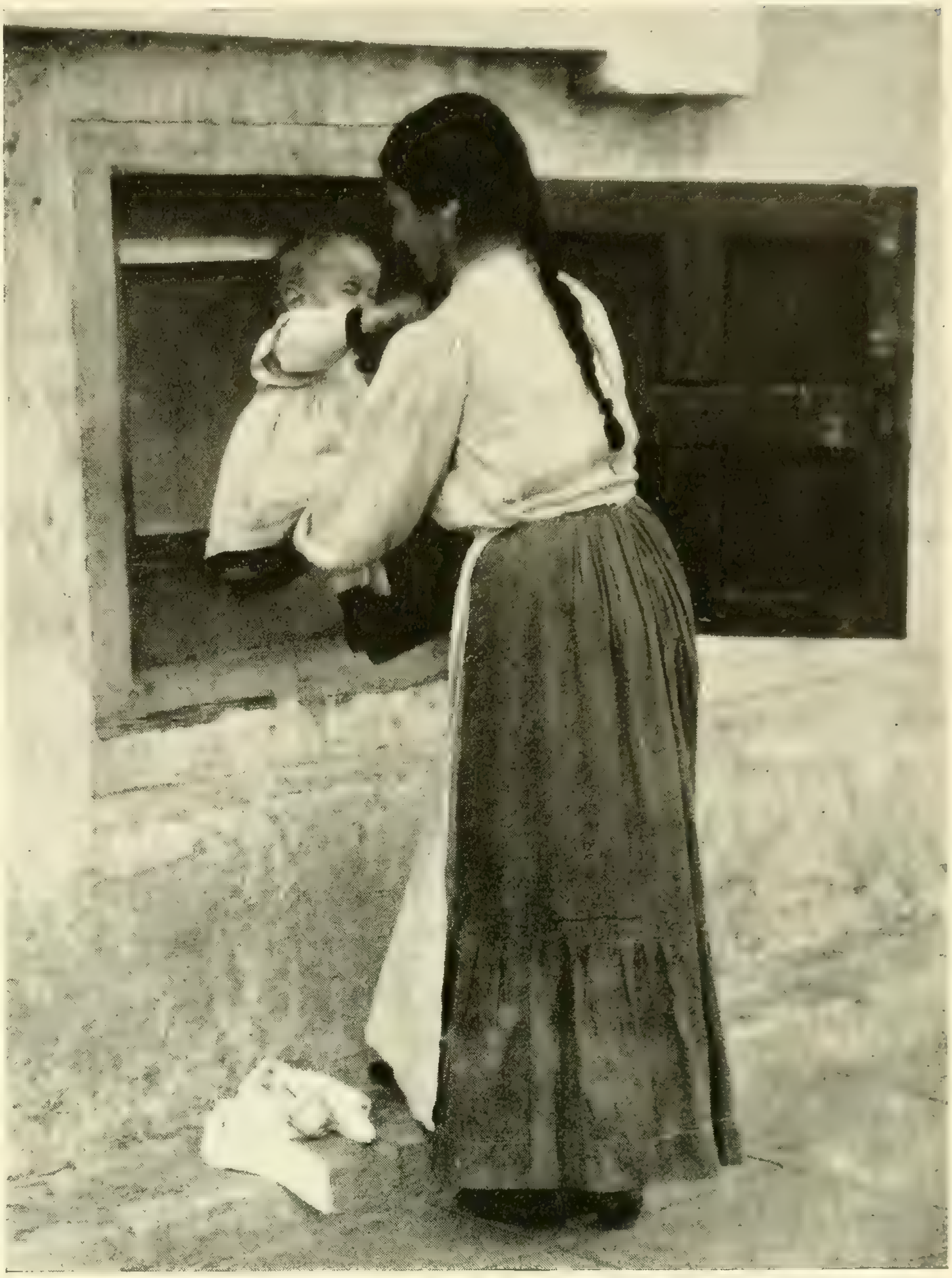
In the morning he reads the daily papers. Then he passes to the comic weeklies, of which Havana has a full quota; from these he turns to the cheap fiction of the hour — fiction that makes "Dare Devil Dick" seem a "piker."

After the cigars are finished they are placed in old seasoned cedar bins, where they get a little touch of the cedar aroma, while any surplus moisture in them evaporates. When ready for market they are assorted according to the color of the wrapper and packed in the boxes we see at the cigar stands.

Each cigar-maker usually smokes cigars of the grade he makes, and it very often happens that one of these men smokes better cigars than many American millionaires.

The Cuban factories in 1919 produced 157,000,000 cigars for export. Placed end to end, they would reach from the Straits of Magellan to Sitka, Alaska.

The profits of the tobacco and cigar business in Cuba bring in from the outside world a great toll. It is only when considered in comparison with the sugar trade that these profits appear relatively small.



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HAVANA'S PUBLIC REPOSITORY FOR UNWANTED BABIES: CUBA

This foundling asylum has a door where the mother of the unwanted baby may go in private, place it in a cupboard in the wall, then shut the door. On the other side of the wall a Sister of Mercy opens the cupboard, and the ill-starred child finds a home where loving hearts are open to its misfortune.

There are many other industries which would almost certainly become sources of great wealth to Cuba were there less opportunity of making big money in sugar-growing and tobacco-raising. Cuban sisal might rival that from Yucatan; Cuban cattle might compete with those of Argentina and Australia; Cuban fruits might claim their place in the world's markets alongside those of Florida and California. But the Cuban planter feels that of all men he can best afford to let well enough alone and stick to his two staple crops.

From whatever angle one views Cuba, it is a land filled with interest, a land that in twenty years has passed from gnawing starvation to overflowing plenty. From one of the most wretched of communities to one of the richest of peoples is the transformation that two decades have wrought; and if the island shall be a beacon light, guiding the ships of state of other American nations into the harbor of permanent peace, the altruism of the United States will be justified and external guarantees of internal peace will receive a rich vindication.

THE CHARM OF CAPE BRETON ISLAND

The Most Picturesque Portion of Canada's Maritime Provinces—A Land Rich in Historic Associations, Natural Resources, and Geographic Appeal

By Catherine Dunlop Mackenzie

With Photographs by Gilbert Grosvenor

The Editor of the Geographic Magazine *has had the good fortune to spend the better part of twenty summers in Cape Breton Island, and from his personal experience can testify that Miss Mackenzie's account of the merits of this fair island is very conservative. One can search the world in vain for lovelier or happier scenes than meet one everywhere throughout romantic Cape Breton.*

"Cape Breton an island? Ha! Are you sure of that? Show it to me on the map. So it is! My dear sir, you always bring us good news. I must go and tell the King that Cape Breton is an island!"

Smollett does not tell us whether it was after he had rejoiced his sovereign with this news that the Duke of Newcastle made his historic statement, "If France was master of Portsmouth, I would hang the man who should give up Cape Breton in exchange for it."

But perhaps it was this glance at the map that influenced England's policy when, at the end of the Seven Years' War, France offered to waive her claim to the whole of Canada in return for the single possession of Cape Breton Island. England refused, and negotiations for peace were broken off.

Although a British possession from the time of the Cabots, it was the French who as a government first valued Cape Breton as a "nursery for her seamen," and a French writer of the seventeenth century who calls it "a very beautiful island on the coast of Acadie, where there are plains and prairies, vast forests filled with oak, maple, cedar, walnut, and the finest fir trees in the world"!

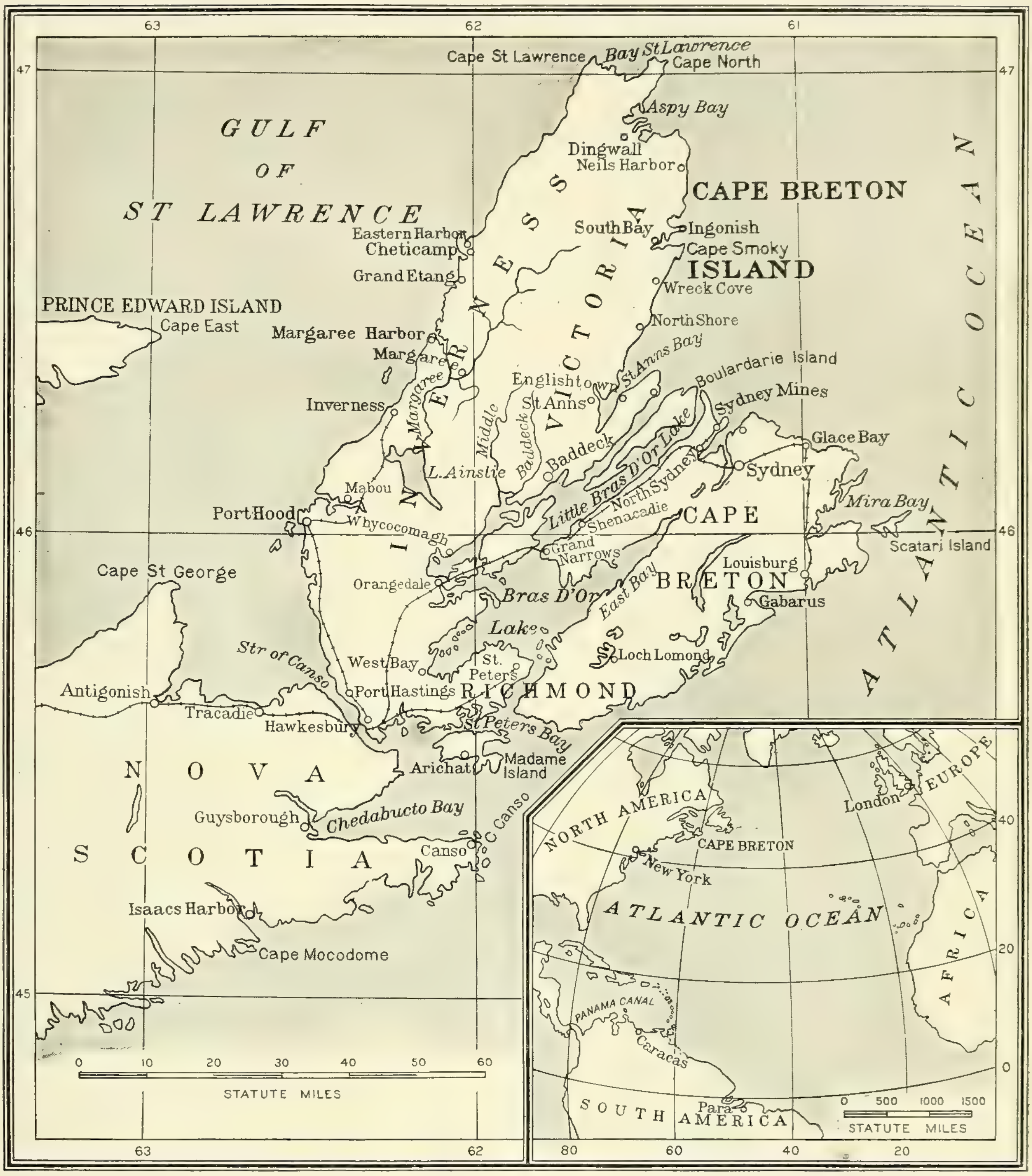
BASQUE SEAFARERS NAMED CAPE BRETON

The island, 110 miles long by 87 miles wide, forms the northeastern part of the Province of Nova Scotia, with which it shares identification as Lief Ericson's "Markland." Undoubtedly her coasts were frequented by Norwegian rovers as early as the tenth century, and we even have it on the authority of the Flemish geographers that the island was discovered and named by Basque fishermen, who crossed the Atlantic in pursuit of whales a hundred years before the voyages of Columbus.

Whether or not one credits them with so early a discovery, it is undoubtedly to the seafarers of the Basque provinces that Cape Breton owes her name—perhaps the oldest name in North American geography.

It is from the voyages of the Cabots, however, that Cape Breton dates her history. The highland to the north of the island is now generally agreed to have been the landfall of John Cabot—the first sighting of North America of which we have record. Peter Martyr's account of the voyage of the younger Cabot in 1498, when the island was claimed in the name of "Kyng Henry," shows that a landing was made on these northern shores at least a year before Columbus touched upon the mainland of the continent.

Standing far out in the Atlantic, the most easterly extremity of the Dominion of Canada, Cape Breton owes much of her colorful history to her geographical position. Of all the ports on the Atlantic seaboard, hers are the nearest to the shipping centers of Europe and Africa by hundreds of miles. She reaches out into the ocean trade lanes, the landfall of west-bound shipping today as in the time of the Cabots, and as rich in the promise



Drawn by A. H. Bumstead

A MAP OF CAPE BRETON ISLAND

Of all the ports on the Atlantic seaboard, Cape Breton's are the nearest to the shipping centers of Europe and Africa. Owing to the island's easterly projection, its ports are also nearer those of South America than others on the North Atlantic coast (note small inset map).

of a great commercial future as in the heritage of an historic past.

CAPE BRETON'S HISTORY IS WAR HISTORY

Two centuries ago her commanding position with reference to the trade of the St. Lawrence and the West Indies made Cape Breton an issue in world politics, an issue sometimes disturbing the peace of Europe and upsetting the treaties of the Powers—"the few acres of snow" for which, according to Voltaire, France and England made piratical war.

The fortunes of the little island, now under the red cross of St. George, now under the golden lilies of France, are a part of the continent's history — the greater part of it a war history.

VIEW OF BRAS D'OR LAKES FROM THE TOP OF BEINN BHREAGH

Baddeck appears on the right. These lakes freeze over in winter and it was here, over the ice of Baddeck Bay, that J. A. D. McCurdy, a Cape Bretoner, made the first flight in a heavier-than-air machine in the British Empire, February 23, 1909 (see page 50)

PANORAMA OF BADDECK, CAPE BRETON

This quaint capital of Victoria County has the most beautiful natural surroundings of any summer resort in Cape Breton. The long headland on the left is Beinn Bhreagh (Beautiful Mountain), the summer home of Alexander Graham Bell and the scene of many experiments on land, air, and water.

Since 1914 the utilization of that strategic position that once made her mistress of these northern seas has given Cape Breton a new chapter of war history—a fascinating chapter, with its pageant of transport and convoy and patrol, and back of it the great war effort of her people.

And now, in the new warfare of commerce, is coming the fulfillment of that promise which her unique geography has held from the first.

THE RESORT OF ADVENTURERS IN THE FIFTEENTH CENTURY

From the close of the fifteenth century until it came into French hands, after the Treaty of Utrecht, the island was the resort of the adventurers of all Europe—French and English, Spanish, Dutch, and Portuguese, attracted by the great wealth of the coast fisheries and by the valuable trade in furs with the native Micmacs.

Before the close of Elizabeth's reign, more than 200 English vessels were employed in the fisheries off Cape Breton coasts. Cape Breton ports were neutral anchorage for the shipping of the warring European powers, her peaceful bays harbored privateer and frigate of war alike, and there is a gay note of lace ruff and jeweled sword against the stormy background of the times.

By the Treaty of Utrecht the island was ceded to France, as the key to her colonies on the St. Lawrence and her rich inland territory south of the Great Lakes. England then held the whole Atlantic seaboard, from Hudson Bay to Florida, and her rival was not slow to see the advantage gained in this one exception.

Strong fortifications were decided upon for Cape Breton, which was renamed "Isle Royale," and the site on the English harbor, chosen for the "Dunkirk of America," became Louisbourg, in honor of the reigning Louis XIV.

THE ROMANTIC STORY OF LOUISBURG

The story of Louisburg, a fortress 25 years in the building, at a cost of six millions of dollars—more than four times that sum in the value of our money—its two sieges, and its final demolition, is the best-known chapter of Cape Breton's history.

Perhaps in the annals of the New World there is no story so romantic as that of a city, ramparted and bastioned and bristling with cannon, sheltering the lives of thousands of souls, with its imposing public buildings, its cathedral, convent, and hospital, its theater, and even its brewery, springing up on the shores of this far-off island in the North Atlantic—an island almost unexplored and inhabited by savages not always friendly, and for half a century remaining a challenge and a menace to the neighboring colonies of a rival power.

The fortress became not only the base of French naval power in America, but, with outlying posts at St. Peters, Ingonish, and St. Anns, the resort of privateers that infested the New England coast and the haven to which they conveyed their spoils.

Upon the outbreak of war between France and England, in 1744, it may be imagined that to the colonists of Massachusetts and New Hampshire the reduction of this stronghold of His Most Christian Majesty was a highly attractive project.

A SIEGE THAT FORESHADOWED THE AMERICAN REVOLUTION

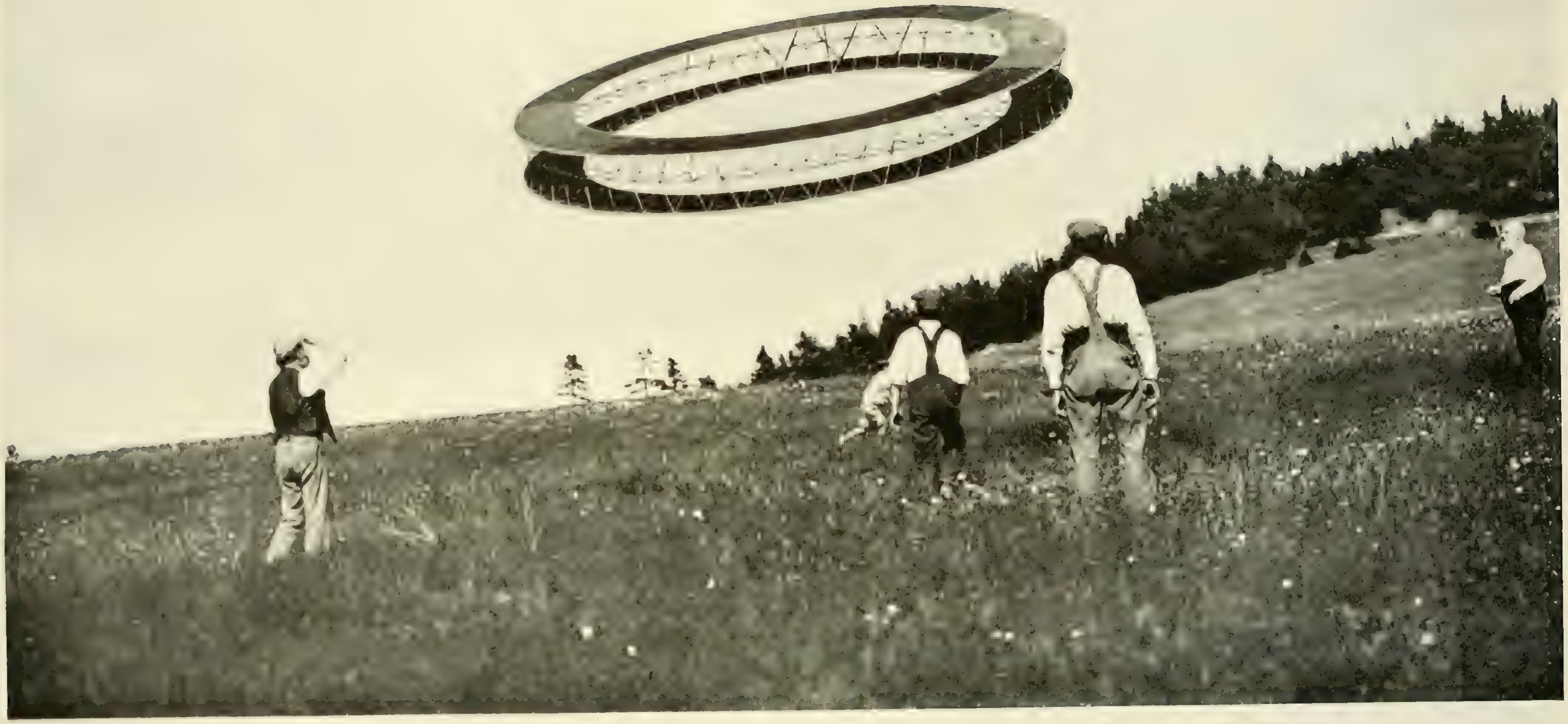
The first siege and capture of Louisburg by the little band of New England militiamen under Pepperell, with the British West India fleet under Warren, probably foreshadowed the American Revolution. Of these intrepid colonists one historian says:

"Their expedition against Cape Breton was their first national enterprise and its result their first national triumph, and it presaged greater things. There were not wanting those who saw in the downfall of Louisburg the independence of the American colonies. . . . The dormant idea of national separation was fanned into flame before the walls of Louisburg."

On the surface, however, it was purely a British exploit to "curb the haughtiness of France."

There were military honors and a title for Pepperell; and New York and Philadelphia and Boston rang loyally with:

"A glorious peace we shall have soon
For we have conquered Cape Breton,
With a fa, la, la," etc.,



A PIONEER IN AVIATION DIRECTING THE FLIGHT OF A NOVEL KITE: CAPE BRETON

During Dr. Bell's experiments with kites, extending through many years, almost every conceivable shape and design was employed. This photograph shows an immense circular kite, built of tetrahedral kites, about to soar several hundred yards aloft.

to the accompaniment of bell-ringing and bonfires and tubs of punch.

The descendants of these enthusiastic citizens, the Society of Colonial Wars, have erected a granite shaft to the heroic dead of this enterprise, and it stands on the spot where Pepperell, in the presence of the assembled troops, received from the military governor the keys of this "most splendid city of La Nouvelle France."

All England celebrated the victory; there were illuminations and the firing of salutes, and the captured colors of the fortress were deposited with much pomp in St. Paul's Cathedral.

With the closing of this refuge of Atlantic privateers, "marine insurance on Anglo-American vessels fell at once from 30 to 12 per cent"!

GALLANTRIES IN TIME OF WAR

Subsequently the island was restored to France—as much a cause for irritation to New England, and perhaps more justly so, than that which precipitated a tea-party better known. And again the fortunes of war and the final supremacy of Anglo-Saxon arms in the New World made it permanently a British possession.

The giant fortress of Louisburg was demolished in favor of the newly fortified base at Halifax—a military necessity that is deplored by the visitor of today.

And yet, in all its desolation, one thrills to the glory of its past. Here are the remains of the Dauphin's gate; yonder can be traced the bomb-proof casements of the King's Bastion, and on one of these grassy mounds stood the citadel, where fair ladies and gallant gentlemen of France graced the grand ball on that fateful eve of Pepperell's arrival in Gabarus Bay.

Perhaps behind this very rampart the lovely Madame Drucour encouraged the defenders in the second siege by serving their guns with her own hands—the fair enemy who so won the admiration of the British admiral that he sent her a special message complimenting her upon her bravery. It is a pretty story and we are glad that Madame accepted the Admiral's compliments and the West Indian pineapples which accompanied them, and graciously returned him a basket of French wines for his wounded.

THE ADVENT OF SCOTTISH SETTLERS

For some years after the peace concluding the Seven Years' War, which confirmed England's ownership of Cape Breton, the policy of her government in reserving the island for naval purposes retarded its colonization. Not until 1784, when the island became temporarily a separate colony, with its own governor, were grants of land to settlers permitted.

Thus Cape Breton received fewer of the United Empire Loyalists, who maintained their allegiance to the British Crown at the expense of their lands and homes in the thirteen American colonies, than did the adjacent provinces and had room for a greater number of the hardy Scottish settlers who came in the late years of the eighteenth and the opening of the nineteenth century.

Many of these came out to join relatives and friends among the Highland soldiers who had fought under Wolfe at the second siege of Louisburg and who had remained in the country upon the disbanding of their regiments, while others came in the stream of emigration which had its source in the breaking up of the clan system and the agrarian troubles in the Scottish Highlands after the suppression of "the '45" and the disaster of Culloden Moor.

In this way the island became "as Gaelic as the most Gaelic part of Scotland." Though there are considerable French Acadian settlements, a more or less cosmopolitan population in the vicinity of the mining districts, and many descendants of the fine old United Empire Loyalist stock, the F. F. V.'s of the provinces, Cape Breton is still predominantly Highland Scottish in its population.

Here can be heard the old Celtic tongue that hurled defiance at Cæsar from the shores of Britain two thousand years ago—a tongue that has sounded the slogan of the Highland clans on every battlefield of the Empire; "a speech that fits the Highlander's mouth to a nicety, that becomes him like his kilt and bonnet; a speech that readily sounds a note of war and just as readily suits itself to devotional purposes; it is adapted to a fine, long grace before meat or to a lusty war-cry that startles the very eagles in their eyries."

BRED TO HARDSHIPS AND DANGERS

In the north and west of the island in particular these hardy mountaineers and islesmen found much to remind them of their native hills and glens and sea-girt coasts. Bred to the hardships and dangers of warfare through all their history, they were peculiarly fitted to endure the privations of pioneer life in this northern wilderness. They were pitifully unskilled in the use of the axe and the plow and unprepared for the cold of winter, yet they endured where almost any other people would have perished.

In their descendants the same qualities of fearlessness and unswerving purpose are leaving their impress upon the citizenship of the American States and the western provinces, whither the youth of Cape Breton are flocking yearly.

This seeking of wider opportunities by her most enterprising sons and daughters is a serious loss to Cape Breton and a problem which it is hoped a greater commercial development of the island will solve.

They can be found occupying positions of trust in profession and trade alike: whether in lumber or mining camp, before the mast or on the bridge, on both seaboards and the Great Lakes, in the university, in law or medicine, or in the Church—they are Cape Bretoners all, coheirs of that "dash of poetry, a touch of genius that belongs of the same fine quality, to no other people."

THE CAPE BRETONER AS A SOLDIER

In speaking of the appearance of the Canadian troops in the late war, Lord Northcliffe said: "Many are of a great stature, especially the Scotsmen from Nova Scotia and New Brunswick and Cape Breton—some of the descendants of the disbanded Highland regiments of long ago."

Another writer, more enthusiastic than accurate, calls them "a race of men physically the superior of any other on the face of this continent." "They are chiefly of Highland Scottish descent, with a sprinkling of French Canadians and, as a matter of course, nearly all Roman Catholics in their religious belief."

His observations of the Highlanders was apparently confined to the stalwart descendants of the Barra Islemen, devout sons of the Church. Had he penetrated far, in Victoria County for instance, he would have breathed the atmosphere of Calvin's five points, where the open-air sacraments of the Scottish Covenanters are still held, with services in English and Gaelic. There are still old people who speak no other tongue than their native Gaelic and many who are more at home in it than in the speech of the Sassenach.

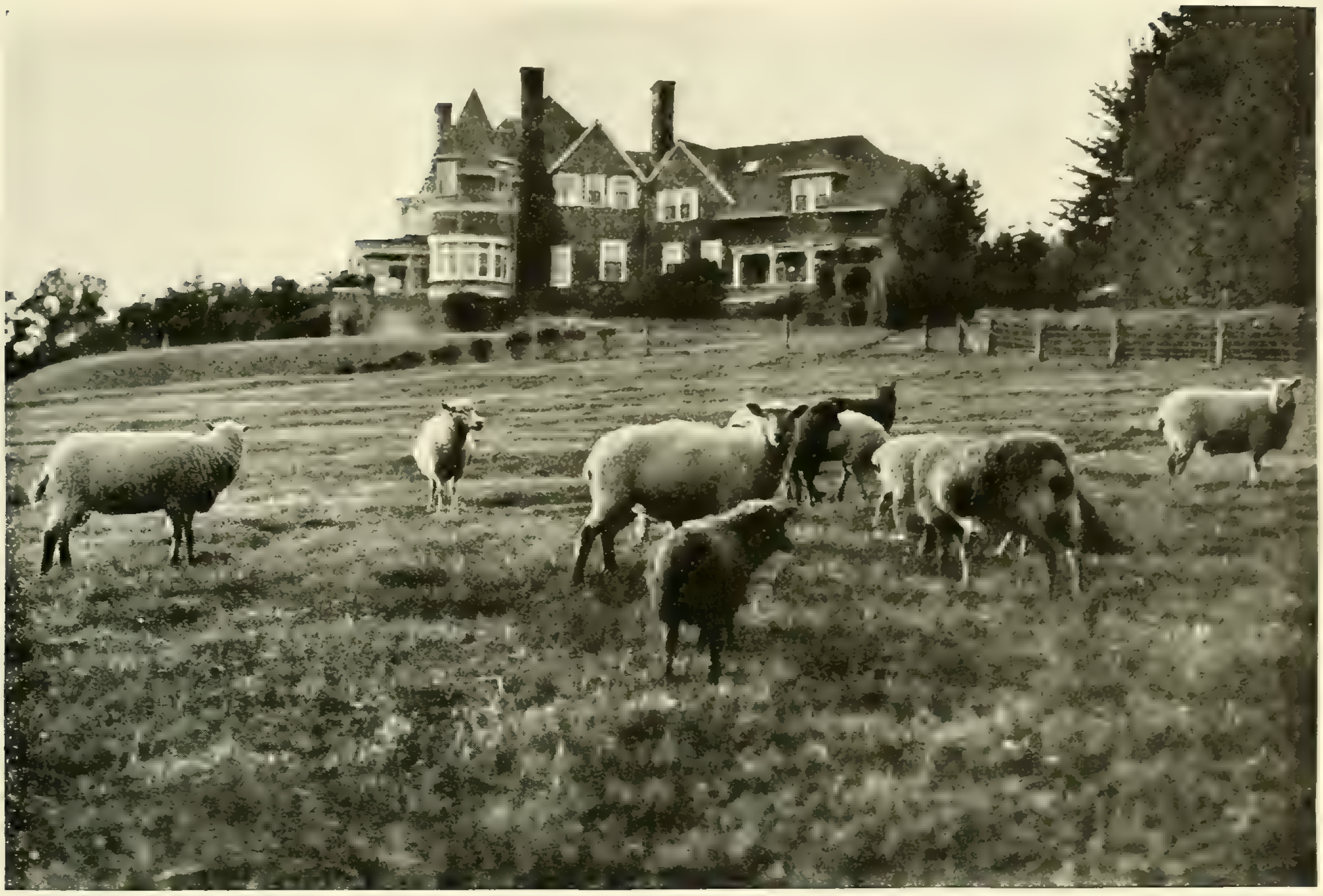
Hundreds of Cape Bretoners fought in the American Civil War. There are veterans still living on remote Cape Breton farms who can tell of walking all the way to Maine to enlist. Her sons followed the Empire's call on South African kopje and veldt; and since 1914, out of a population of approximately 122,000 men women, and children, Cape Breton contributed 13,000 volunteers to the Canadian forces.

Large as the proportion is, it represents, after all, only a fraction of the island's contribution, for the honor roll of the Great War contains the names of hundreds of her sons who enlisted in other provinces and the United States. And there were no better soldiers on any front.

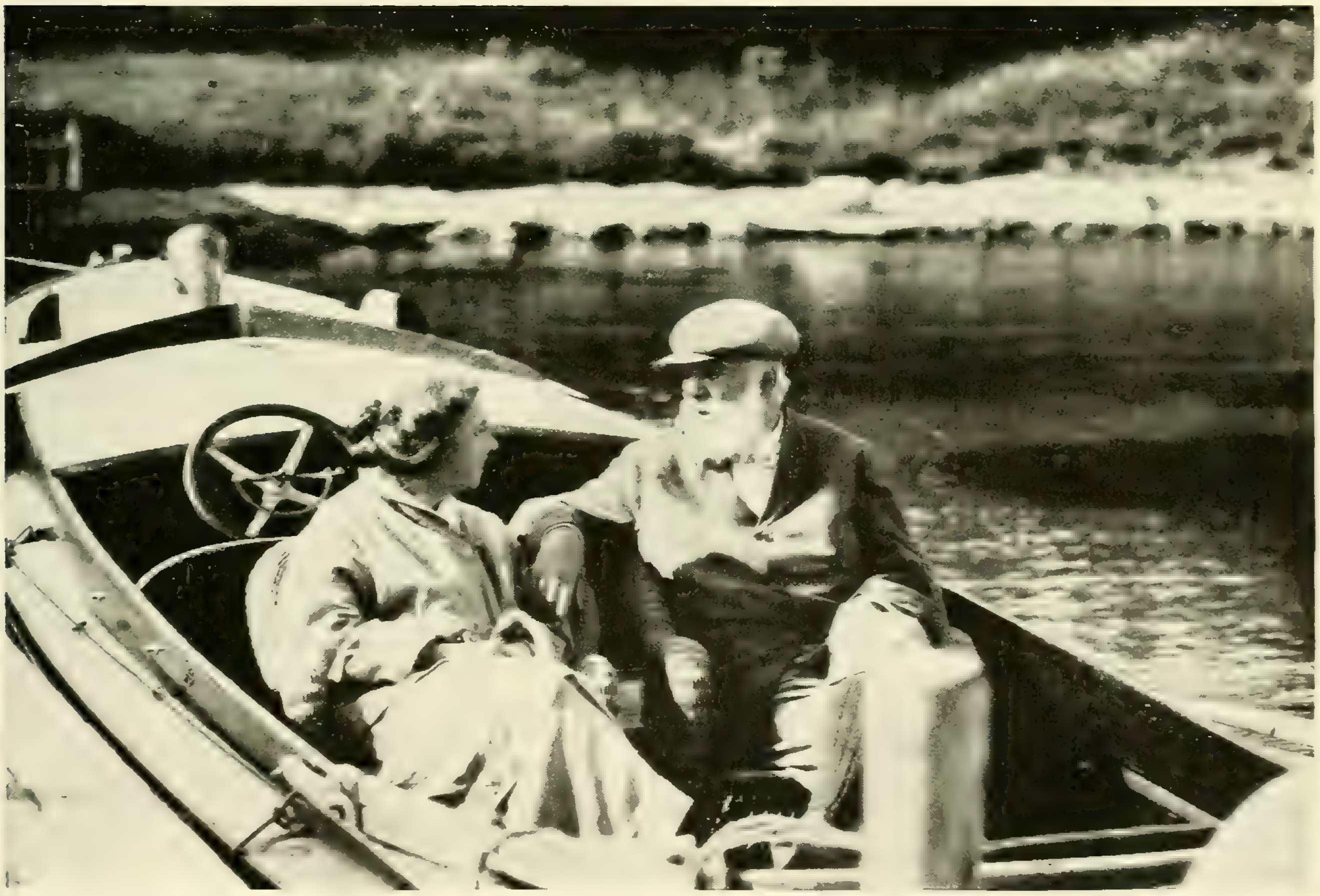
One Cape Breton Highlander, a bronzed, kilted giant who might have sped the fiery cross in "the '15" or "the '45," told of an informal presentation to an officer of the Allied High Command:

"Ah!" said he, "you are from Canada? I don't know much about Canada, except that there is a place there called Cape Breton, and the men are born fighters."

From the second battle of Ypres, where a Cape Breton company first won distinction in this war, to the undying glory that was theirs at Vimy Ridge and



A GROUP OF ALEXANDER GRAHAM BELL'S TWIN-BEARING SHEEP: CAPE BRETON



DR. BELL AND HIS TALENTED WIFE, MABEL GARDINER BELL, DISCUSSING SCIENTIFIC PROBLEMS BETWEEN EXPERIMENTS AT BADDECK

Passchendaele, and the breaking of the Queant-Drocourt line, these men have indeed "stood a wall of fire around their much-loved isle."

And when the victorious Canadians marched into Mons in the dawn of that historic November morning, it was the pipers of that most Cape Breton of all units, the 85th Nova Scotia Highlanders, that skirled on ahead to "Bonny Blue Bonnets Are Over the Border."

But Cape Breton's army was not exclusively Gaelic in its personnel. There are English and Irish and Welsh and Lowland Scottish names—men from the mining districts* and French Acadians from the settlements of the West Coast and Richmond County, where the French of Louis XIV is still spoken. These were some of the men who took back to France the folk-songs brought over the seas by their ancestors two and three centuries ago.

Sometimes, as they passed singing through the French villages, old inhabitants came out to hear almost forgotten "chansons" of their youth on the lips of these kinsmen from overseas.

There were Cape Breton medical officers and nursing sisters on every front, whether serving with Canadian, or Imperial, or American units. And back of this record of active service stood the people of the island.

It is not too much to say that Canada's output of munitions was dependent upon Cape Breton steel and Cape Breton coal which means Cape Breton workmen. In the little city of Sydney and the county of which it is the shire-town, the sum of $12,000,000 was subscribed in one year for war needs; and this from a population of less than 100,000, none of them citizens of great wealth.

And as great as these contributions, which can be reckoned in dollars, were the untiring efforts of Cape Breton women to provide for every need of the men overseas. In town and village and in the remotest country districts alike there were mothers, and wives and daughters, and sisters of Cape Breton soldiers spinning and knitting for their comfort—and waiting, too often in vain, for their return.

CAPE BRETON'S WEALTH IN COAL

Commercially, Cape Breton is best known for the wealth of her enormous coal deposits and for her growing steel industry. The first regular mining of Cape Breton coal appears to have been for the supply of the fortress of Louisburg, though there is earlier mention of its use, and in a report to the British Admiralty in 1711 Admiral Walker says:

"The island has always in time of peace been used in common, both by the English and the French, for loading coals, which are extraordinarily good here, and taken out of the cliffs with iron bars only and no other labour."

As fuel, it continues to be "extraordinarily good," and in 1918 the island's production was 4,585,110 net tons.

There are three distinct coal fields,—the Sydney, the Inverness, and the Richmond—the importance of the first overshadowing the others, though in themselves of considerable value. The Sydney field, with its estimated deposit of one thousand million tons (exclusive of seams less than four feet thick), is probably the most valuable in the Dominion.

The land area of this field forms merely the southern extremity of a vast deposit extending far out under the Atlantic—submarine areas that are already being worked two miles from shore.

The value of these coal areas is enhanced twofold by the shipping advantages of Sydney and Louisburg harbors and it is significant that these ports are nearer not only to European and African markets, but, by reason of the island's easterly projection, nearer to those of South America than any other ports on the North Atlantic seaboard (see map, page 35).

The shipping of Louisburg and Sydney is within shorter sailing distance of Rio de Janeiro than that of New Orleans.

THE ONLY "COAL AT TIDE-WATER"

Cape Breton coal is of the bituminous variety, especially useful in the manufac-

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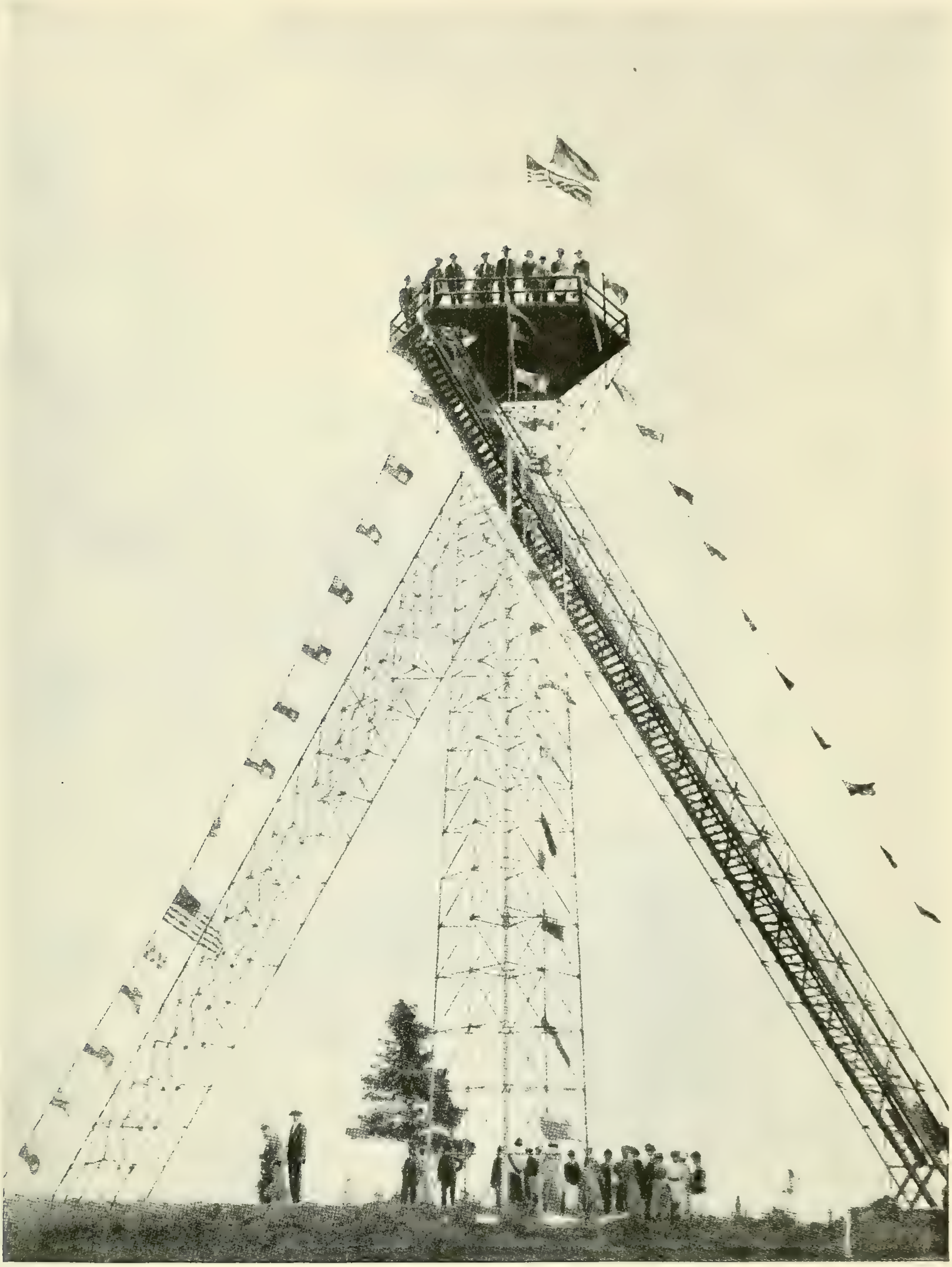
*It is said that the mining town of New Waterford sent more men overseas in proportion to its population than any other town in the British Empire.

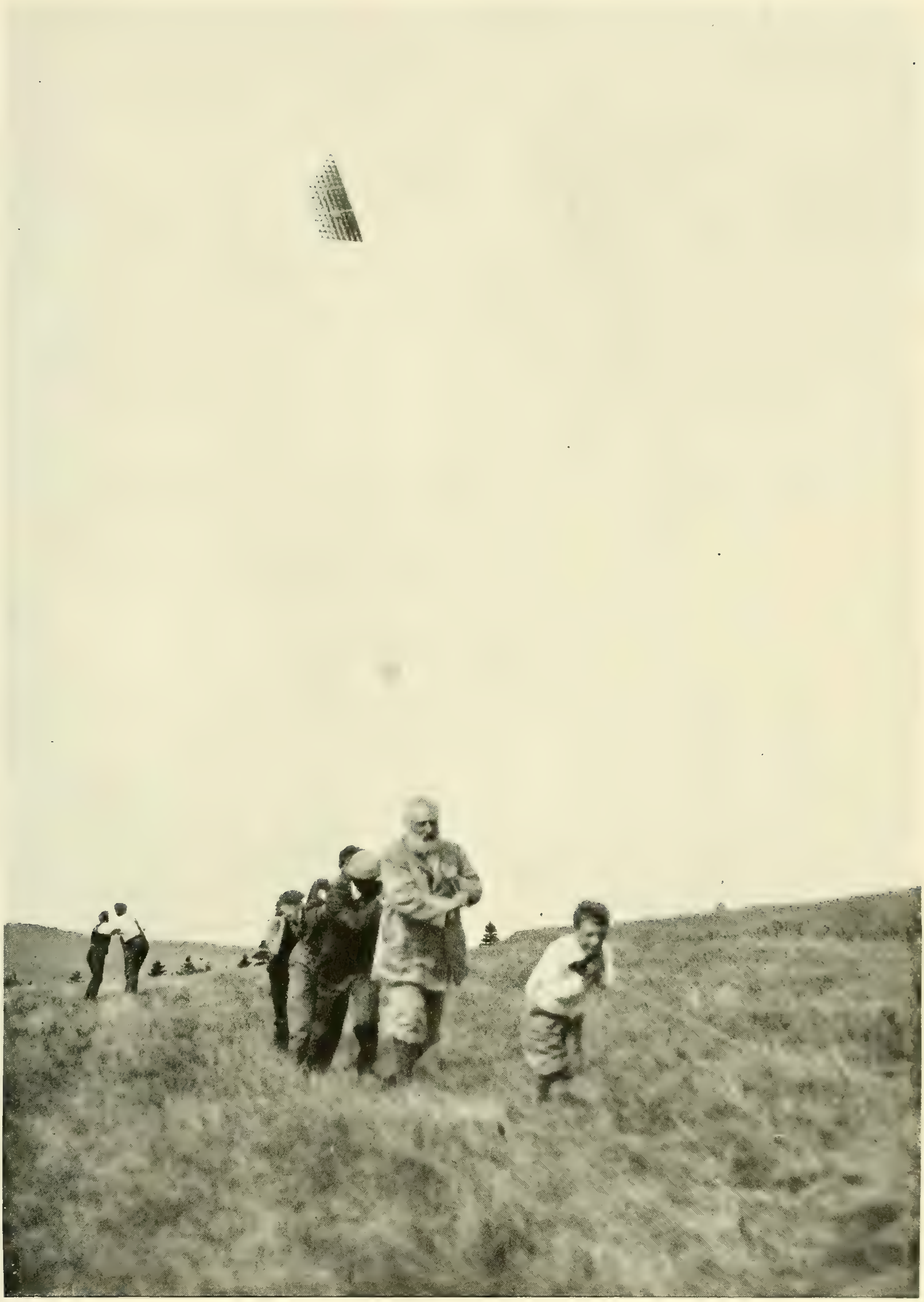


THE TOWER ON THE SUMMIT OF BEINN BHREAGH

This outlook tower, unique in design and construction, was recently erected by Dr. Alexander Graham Bell, at his summer home in Baddeck, Cape Breton. The tower reaches a height of nearly eighty feet, and yet neither scaffolding nor derricks were employed in building it. It is made of the tetrahedral cells invented by Dr. Bell. This considerable structure weighs less than five tons, and yet can carry a great weight. It is remarkable, not only for its strength and lightness, as well as cheapness, but also for the fact that it was put together in about ten days by several unskilled laborers, and that every part of the work was done on the ground. No one was obliged to leave the ground until the tower stood erect and completed.

DR. BELL'S MAN-LIFTING KITE FLYING OVER BRAS D'OR LAKE (SEE PAGE 49)

This is the giant Cygnet No. 1, in which Lieutenant Thomas E. Selfridge, U. S. Army, made an ascent 168 feet above the waters of the Bras d'Or Lake thirteen years ago.



HAULING DOWN ONE OF DR. BELL'S LARGER KITES: CAPE BRETON

It is no easy matter to bring down one of these sturdy flyers when the wind is blowing hard.

ture of gas, with all the consequent by-product possibilities.

In the good old days when coal could be had for a shilling or so a ton, the women-folk of the miners at one of the Sydney workings used to provide hot water for the weekly wash by the simple practice of digging a hole ten or twelve inches deep at the water's edge, filling it with pebbles and setting a candle to it. By this means they had plenty of boiling water, and the supply continued for weeks or months unless the fire was extinguished.

This incident has been quoted in a government report to illustrate the high percentage of gas. No estimate is given of the cost of the hot water at present prices of coal, but it is surely proof of Sydney's claim to coal "at tide-water"—the only coal at tide-water on the Atlantic seaboard.

With this unlimited supply of fuel suitable for coke, limestone in abundance, and iron ore near at hand, Cape Breton has the three requisite raw materials for that "cheapest ton of steel" which Andrew Carnegie has said assured a nation supremacy.

But, above all, Cape Breton's commercial advantage lies in her facilities for water transport. All other important iron-producing districts of the continent are far inland. Cape Breton's maritime position relieves her industry of the burden of railway freight hauls for raw material and gives her a corresponding advantage over inland competitors in delivery of the finished product to foreign markets.

In 1918 the island produced 512,377 net tons of steel ingots and 415,808 net tons of pig-iron. Figures of the actual production of war material by the Sydney industries are not yet available, but they may be estimated from the fact that an army of 16,000 men was employed in the steel plant and collieries through more than four years of war, working night and day, the products ranging from steel rails, shell blanks, and barbed wire to chemicals for the manufacture of high explosives. During the war 705,000 gallons of toluene were manufactured in Cape Breton.

Due to their part in the making of steel, the island's rich deposits of limestone and dolomite are, next to coal, the most extensively developed of her mineral resources. The production of limestone alone, for 1918, was considerably more than 400,000 tons. The largest areas are operated by the corporations controlling the Sydney industries and all of them are near the invaluable water transport which the Bras d'Or Lakes afford.

The city of Sydney shares with the towns of North Sydney and Sydney Mines, across the harbor, one of the finest ports in North America. It was founded as the capital of the island when Cape Breton was a separate province, and was a garrison town up to the time of the Crimean War.

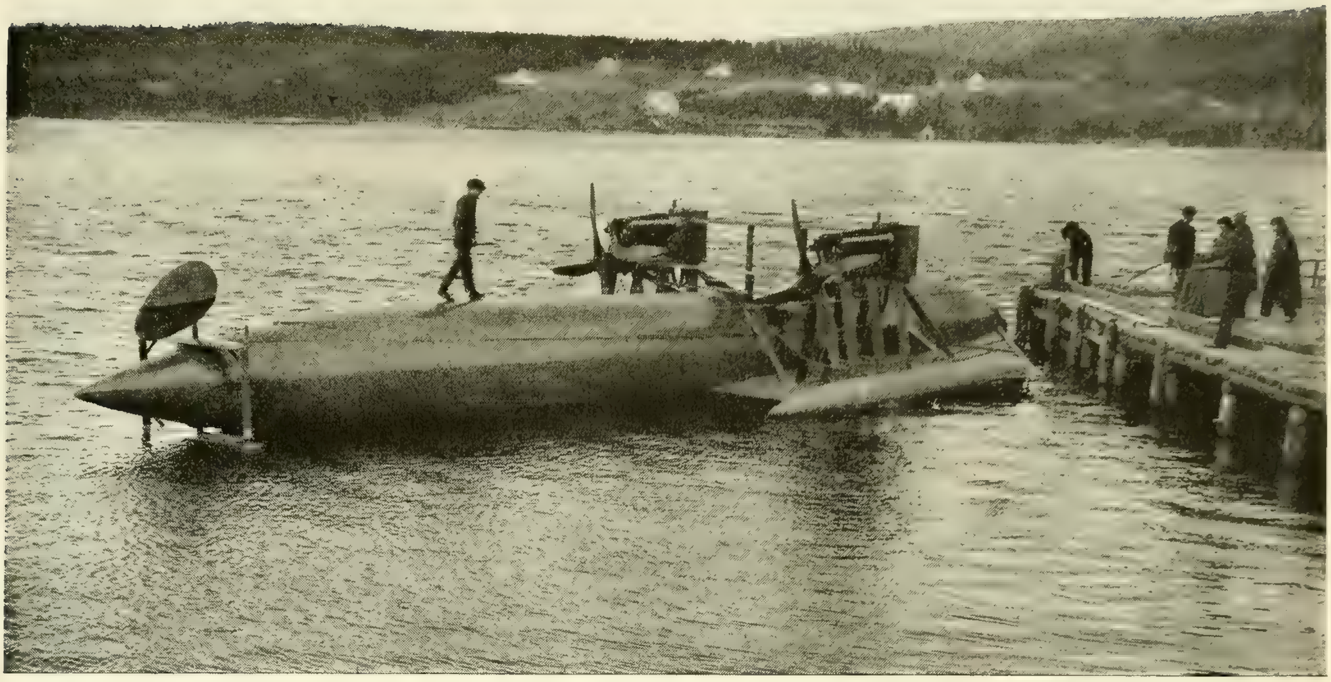
Though its founding completed Louisburg's ruin, it never in any way approached the military importance of that fortress. But it has a military heritage of some well-laid streets, and its park is outside the town because, so the story goes, one of the military governors lost the title to the original site at a poker game.

Sydney's coal and steel industries are rapidly making it a great commercial center, and it has now a five-million-dollar ship-plate rolling mill, which presages steel shipbuilding on its own waterfront with its own steel.

NORSEMEN CAME TO THE ISLAND FOR TIMBER

In earlier times the whole island was well wooded with hemlock, oak, ash, birch, elm, maple, beech, and pine, as well as the spruce and fir now predominant. The Norsemen came here for timber, and within a generation the craft of the Clyde shipbuilders loading lumber were familiar in Bras d'Or waters.

Forest fires have depleted the finest areas, and the export has largely fallen off, but in 1918 the Cape Breton collieries used nearly 12,000,000 lineal feet of pit timber, most of it produced on the island. The wood-pulp industry is a source of large revenue and one in which much American capital has been invested.



DR. BELL'S HD-4 AT REST: CAPE BRETON (SEE ALSO PAGES 48 AND 49)

Next in importance to Cape Breton's mineral wealth are her fisheries. The cod, the ancestor of North American exports, has formed the principal catch of these waters since Sebastian Cabot reported them in such numbers as to impede the navigation of his ships, and Charlevoix asserted the fishery of more value to France than the mines of Peru and Mexico. Cape Breton fishermen took a toll of nearly $4,000,000 from the coast waters of the island in 1918.

The salmon and trout fishing of the streams is well known the continent over and the tuna fishing at St. Anns Bay attracts sportsmen yearly (see page 51).

THREE GREAT NAMES ASSOCIATED WITH CAPE BRETON

It is singular that Cape Breton should be associated with the work of the three men who have done most to make neighbors of the nations—Morse, Bell, and Marconi.

It was on Cape Breton shores, at Cape North, that the first successful Atlantic cable was landed in 1867; and for years through the lonely North country of the island, ran the land line of the cable company—the slender link between continents that united two civilizations.

One of the biggest problems of the company's superintendent was to prevent the interruption of world news by the marksmanship of young Cape Breton, who, heedless of tidings of the rise and fall of empires, found the wire a novel target.

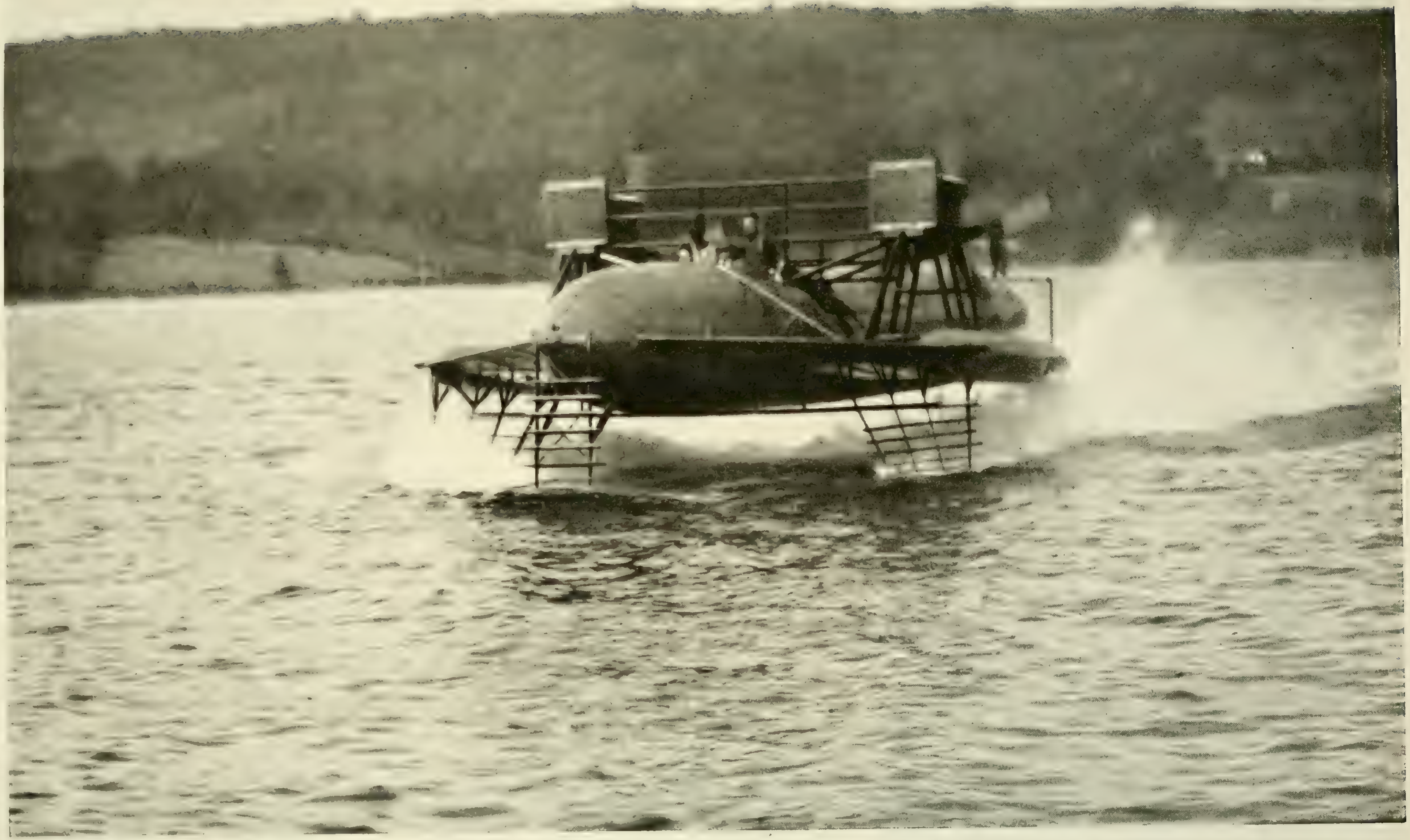
"BEINN BHREAGH" A CENTER OF SCIENTIFIC EXPERIMENT

The laboratories of Alexander Graham Bell at his estate, "Beinn Bhreagh" (Beautiful Mountain), near Baddeck, have been for nearly thirty-five years the center of the great scientist's work of research and experiment in subjects ranging all the way from aërial locomotion to the breeding of a multi-nippled, twin-bearing stock of sheep.

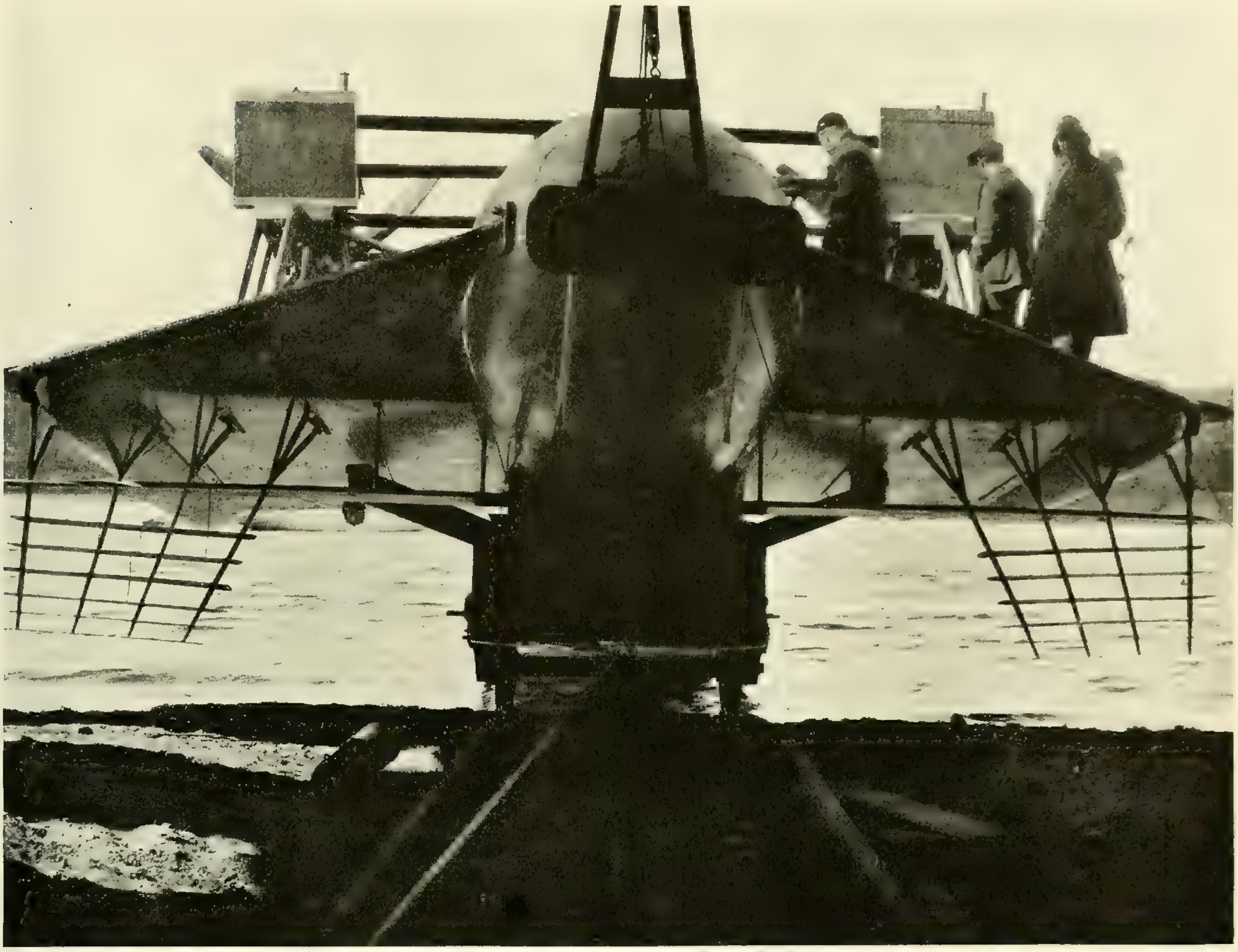
Dr. Bell's work is of special interest to the members of the National Geographic Society, of which he was the second president and a member of its Board of Trustees since its founding.

Preserved in the laboratory museum is one of the first commercial graphophones (a phonograph as well, for it both recorded sound and reproduced it), which Graham Bell used here in his experiments in multiplying phonograph records by means of printing from molds of plaster and agate cement. A collection of these molds is another exhibit.

These Cape Breton experiments with the graphophone followed Dr. Bell's work with his associates of the Volta Labora-



THE FASTEST BOAT IN THE WORLD, MAKING 70 MILES AN HOUR: DR. BELL'S HD-4 IN ACTION (SEE PAGE 49)



HAULING THE HD-4 INTO HER HOUSE

The illustration shows very clearly the two sets of hydrofoils (resembling ladders), on which the boat rises from the water as she gathers speed. The faster she goes the higher she rises from the water, until she is supported solely by the lowest blades, as is very graphically shown on page 48.

tory, which resulted in the flat disk record, with its "sound-reproducing, laterally undulating groove in a wax-like tablet" that is universally used today. The Beinn Bhreagh Laboratory did not share in this work; it was not in existence then; so the flat disk "phonographs," as Dr. Bell called those first records, are in the National Museum at Washington, instead of in the little one at Beinn Bhreagh.

But there is a fascinating collection of apparatus similar to that used in the development of the photophone; there are models of the giant man-carrying kites of tetrahedral-cell construction which preceded Graham Bell's work in the heavier-than-air flying machine, and a whole series of models of aërial propellers tested out here in the infancy of the modern flying-machine.

From his boyhood Graham Bell had believed in mechanical flight, and he was working on kite structures when Samuel Pierpont Langley visited him in Cape Breton in 1894. It was Graham Bell who encouraged Langley's work in aërodromics at a time when even the radical minds in the scientific world looked askance at the man who would fly. And he was the sole witness, other than Langley's workmen, of that historic flight at Quantico, Va., in May, 1896, of which Dr. Bell has said:

"The sight of Langley's steam aërodrome circling in the sky convinced me that the age of the flying-machine was at hand."

CAPE BRETON'S CONTRIBUTION TOWARD THE MASTERY OF THE AIR

For the next ten years Graham Bell devoted himself to the perfection of his tetrahedral kites. On December 6, 1907, the giant Cygnet No. 1 made an ascent of 168 feet above the waters of the Bras d'Or Lake, carrying Lieut. Thomas E. Selfridge, of the U. S. Army.

This was the first machine of the Aërial Experiment Association formed by Dr. Bell in 1907 with summer headquarters in Cape Breton, the object being "to get into the air." Associated with him were Lieut. Thomas E. Selfridge, who was detailed by the U. S. Army to assist the experiments; two young Canadian engineers, F. W. Baldwin and J. A. D. McCurdy, and Glenn H. Curtiss, who was the motor expert of the association.

They got into the air. It was with an A. E. A. machine, the "Red Wing," that F. W. Baldwin made the first public flight in America over the ice at Lake Keuka, N. Y., in 1908—a flight of 318 feet, 11 inches; twenty feet in the air! Then the "White Wing" flew a thousand feet or so, and in the third machine, "The June Bug," Glenn Curtiss won the *Scientific American* trophy for flying the first measured kilometer under test conditions. And finally came the "Silver Dart," which Cape Breton claims as particularly hers, because in it, on February 23, 1909, J. A. D. McCurdy, a Cape Bretoner born, over the ice of Baddeck Bay, made the first flight in the British Empire.

Its aim accomplished, the Aërial Experiment Association automatically dissolved in March, 1909. This work of eighteen months, financed entirely by Mrs. Bell, resulted in the development of features which are fundamental in all modern heavier-than-air flying-machines; and it was the apprenticeship of men who were to go far in the art.

Selfridge unfortunately met his death in an accident to one of the Wright machines, at Fort Myer, in 1908—the first victim of modern aviation. Baldwin and McCurdy continued to fly, and with their Baddeck-built machines were the pioneers of Canadian flight.

A BADDECK-MADE BOAT WHICH HAS A SPEED OF 70 MILES AN HOUR

For the last ten years Graham Bell and F. W. Baldwin have been associated in the development of high-speed boats of the submerged hydroplane type—hydrodromes they call them, and abbreviate the term to "HD." The "HD-4," which makes 70 miles an hour is the latest contribution to the series. It embodies the best features developed in their ten years of joint experiment, and it is the fastest boat in the world (see pages 47-49).

During the war the Beinn Bhreagh laboratories, where the HD's have been built, were converted into a boat-building establishment, and did useful work in building small craft for the Canadian and British governments. It was the first boat-building plant in Canada to employ women workers.

THE FIRST STATION FOR TRANSATLANTIC WIRELESS

As Cape Breton received the first direct cable message from Europe to America, so thirty-five years later the first public wireless message between the hemispheres was sent from the Table Head station near Glace Bay. The message was from the Governor-General of Canada to Edward VII.

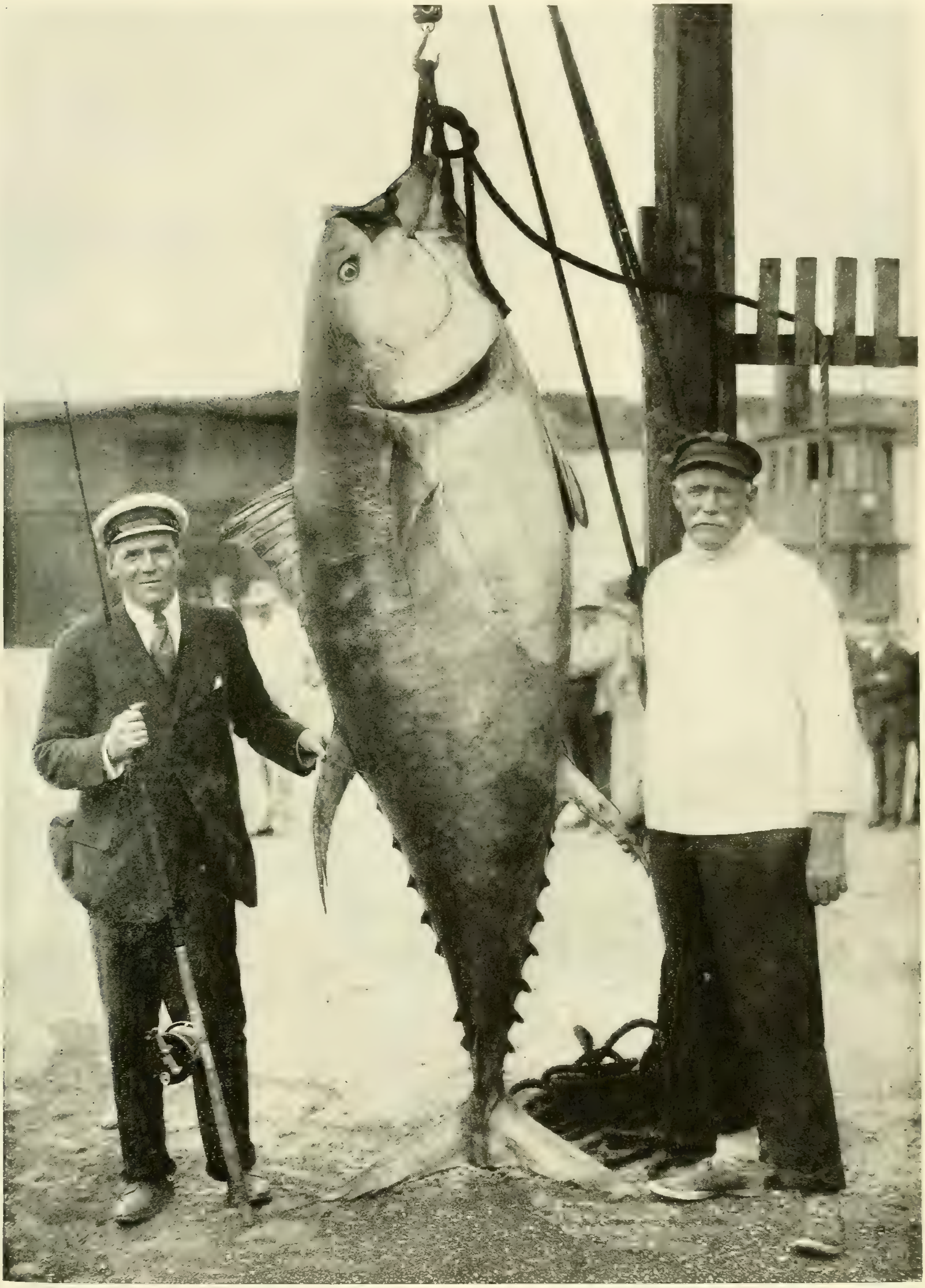
In permitting this purely British interchange for the historic message, Signor Marconi evidenced his appreciation of Canada's assistance in his experimental work, after the opposition of the cable people compelled him to abandon his work in Newfoundland.

The site for this first station in the Americas was given by the Dominion Coal Co., and the expense of erecting the first four towers was largely covered by an appropriation of the Canadian Government.

THE FINEST SCENERY IN THE MARITIME PROVINCES

The finest scenery in the Maritime provinces is to be found in northern Cape Breton and through the lovely Bras d'Or Lake region of the interior.

Most striking of the island's physical features is this inland sea, known in its two sections as the Great and Little Bras d'Or lakes. Widening out from its two Atlantic entrances, it extends in its 450 square miles of area through the heart of the island—nearly a thousand miles of interior coast-line bordering all four counties and forming in enchanting succession wide harbors, island-dotted bays, and deep fjord-like channels. A ship canal at historic St. Peters, across the old Indian portage of Nicholas Deny's



THE WORLD'S RECORD TUNA, WEIGHING 680 POUNDS, TAKEN WITH THE ROD AND LINE SHOWN IN THE PICTURE, AFTER MANY HOURS OF PLAY, BY J. K. L. ROSS AT ST. ANNS BAY, CAPE BRETON

This giant tuna, locally known as the horse mackerel, ranges in weight from 500 to 1,200 pounds. Its capture affords most exciting experiences to those fond of the sport. On one occasion Mr. Ross played one of these tuna 19 hours. After dragging him with his row-boat some 20 miles down the coast, the fish broke the line and escaped. Photograph from Mr. Ross.

THE BAY OF ST. ANNS, CAPE BRETON, THE PORT OF EMBARKATION FOR THAT STRANGE HEGIRA TO NEW ZEALAND (SEE PAGE 53)

time, connects the lake waters with the Strait of Canso.

"I have wanted to see the Bras d'Or Lakes," said a summer visitor recently, "since my first trip through the Canadian Rockies. We had with us a well-known guide, who listened patiently to our raptures until one of the young girls of the party turned to him and cried enthusiastically, 'How inspiring it must be to live always in the midst of this magnificent scenery!' 'Scenery!' he said, almost contemptuously. 'If you want to see scenery, Miss, go down to the Bras d'Or* Lakes, in Cape Breton, where I was born; that's where you'll see *scenery!*'"

This inland waterway was of great strategic value to the French, as at a later period it was a valuable means of transportation—indeed, the only means of transportation at first—to the Highland Scottish settlers. Today it affords easy access to the markets of the Sydneys for the farmers of the interior, no less than a natural playground for the people of the industrial centers.

ONE OF THE WORLD'S FINEST YACHTING COURSES

Here is one of the finest yachting courses in the world, with deep-sea cruising within easy reach of sheltered harbors, deep-water fishing, and sea-bathing. With only a few inches of tide, there are no untidy beaches or mud flats and no "head current when homeward bound."

It was Charles Dudley Warner who said: "The Bras d'Or is the most beautiful salt-water lake I have ever seen, and more beautiful than we had imagined a body of salt water could be. Certainly, as we glided out upon the summer waters and began to get the graceful outlines of the widening shores, it seemed as if we had taken passage to the Fortunate Isles. The most electric American, heir of all the nervous diseases of all the ages, could not but find peace in this scene of tranquil beauty, and sail on into a great and deepening contentment."

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* Though the name "Bras d'Or" (literally arm of gold) is usually considered a descriptive term original with the French, it is plain from the first charts of the island that the present spelling is simply the French rendering of the earlier name, "Labrador." It is an interesting conjecture whether that romantic Portuguese navigator who named "Terra Labrador" to the north may have first found his way into this magnificent waterway and given it the name it still bears.

The Bras d'Or lakes are all this and more. Words seem poor things, applied to the sparkle of blue waters under midsummer sun, the flash of seagulls' wings in purple shallows, or to headlands sometimes blue in the distance, sometimes brilliant with October coloring and hazy under the heat of Indian summer, or snow-capped and vivid against dazzling winter skies.

A CHARM PECULIARLY ITS OWN

Those who are fond of seeing in everything a likeness to something else compare Cape Breton scenery variously to the Highlands of Scotland or to Killarney; but the world-traveled Americans who have made it their summer home since its rediscovery by Warner find that, as lovely as all these, it has a charm peculiarly its own.

Besides these great stretches of inland sea, there are several beautiful freshwater lakes—the largest, Lake Ainslie, with a length of twelve miles; Loch Lomond, as picturesque as its name, and the Lakes-o-Law, headwaters of the Margaree River, of salmon-fishing fame. For loveliness these lake districts rival the Bras d'Or. There are graceful wooded hills, rich upland pastures, and stretches of fertile intervale between.

Lake Ainslie is in the heart of a rich farming country that extends from the Baddeck and Middle rivers through the beautiful valley of the Margaree, and reminds one of how much underrated are the agricultural possibilities of Cape Breton.

THE ISLAND'S DIVERSIFIED PHYSICAL FEATURES

No country in the world is better adapted for mixed farming or has greater rapidity of growth, once vegetation is started. Oddly enough, the lateness of the spring gives Cape Breton fruit-growers an advantage over those of the famous Annapolis Valley of the neighboring peninsula, as the blossom buds do not develop too early and the proximity to the lakes is a safeguard from early autumn frosts.

If one had to use just a single word to describe Cape Breton, it would have to be "diversified." There is a diversity of people, of products, of industries, but especially of physical features. Beyond the fertile Margaree Valley, stretching away 1,100 square miles to the north, is a great elevated table-land, in some places 1,200 feet above sea-level and only broken by the ranges of mountains lining the coasts.

This plateau is covered with stunted spruce, moss, and rock, and is a natural game reserve that until recent years afforded the finest of moose and deer and caribou hunting.

There are still caribou and deer and brown bears, and good partridge shooting in the hills, but the moose have been exterminated and the "barrens" are most frequented for the quantities of luscious blueberries in season. The berries are of great size and fine flavor and have been canned successfully for the market.

There are tracts of peat-bogs here that may account for the complaint of the traveler that "the higher you go in Cape Breton the wetter it gets."

The north of the island can be reached by steamer from the Sydneys or overland.

A STRANGE HEGIRA TO NEW ZEALAND

Overland from Baddeck, which unquestionably has the most beautiful surroundings of any spot on the island, the historic St. Anns Bay district is the first stage of the journey. Here the fathers of the Society of Jesus labored among the "sauvages" in the days before Louisburg, and here are the remains of the later French fortifications, built when Louis XIV and his ministers debated whether this or Louisburg harbor should be their naval base in the Americas.

The little cove can be seen where the bark *Margaret* was launched, the first of the six vessels built for that strange hegira to New Zealand of the Rev. Norman Macleod and more than eight hundred of his flock.

St. Anns folk still tell of the power of this "prophet, priest, and king," who disclaimed any earthly authority higher than his own, dealt with the Old Adam

PANORAMIC VIEW OF ELSIE'S HARBOR: BRAS D'OR LAKES, CAPE BRETON

The shores of the Bras d'Or Lakes are studded with scores of these delightful havens, where the yachtsman finds comfortable quarters for his craft. Note on extreme left the three-master wooden schooner in course of construction.

BEHIND THE BAR, IN BOULECEET HARBOR: CAPE BRETON

The Bras d'Or Lakes offer the safest course for small yachts known. In these lakes the sportsman has no fog, no tides, no hidden rocks to contend with, and the water is as salty and clean as the ocean (see page 52) of a primitive community solely by the virtue of an extraordinary personality, and when more than seventy years of age was the moving spirit in almost wholesale emigration of the Highland settlers to the other side of the world.

He discountenanced the small vanities of the womenfolk and once forbade the wearing of muslin rufflings, then the vogue for Sunday headgear. An official of the kirk was sent from door to door to collect the irons used for fluting the accessory, and these vexations of the pioneer spirit were consigned to the depths of St. Anns Bay.

THE HOME OF A FAMOUS GIANT

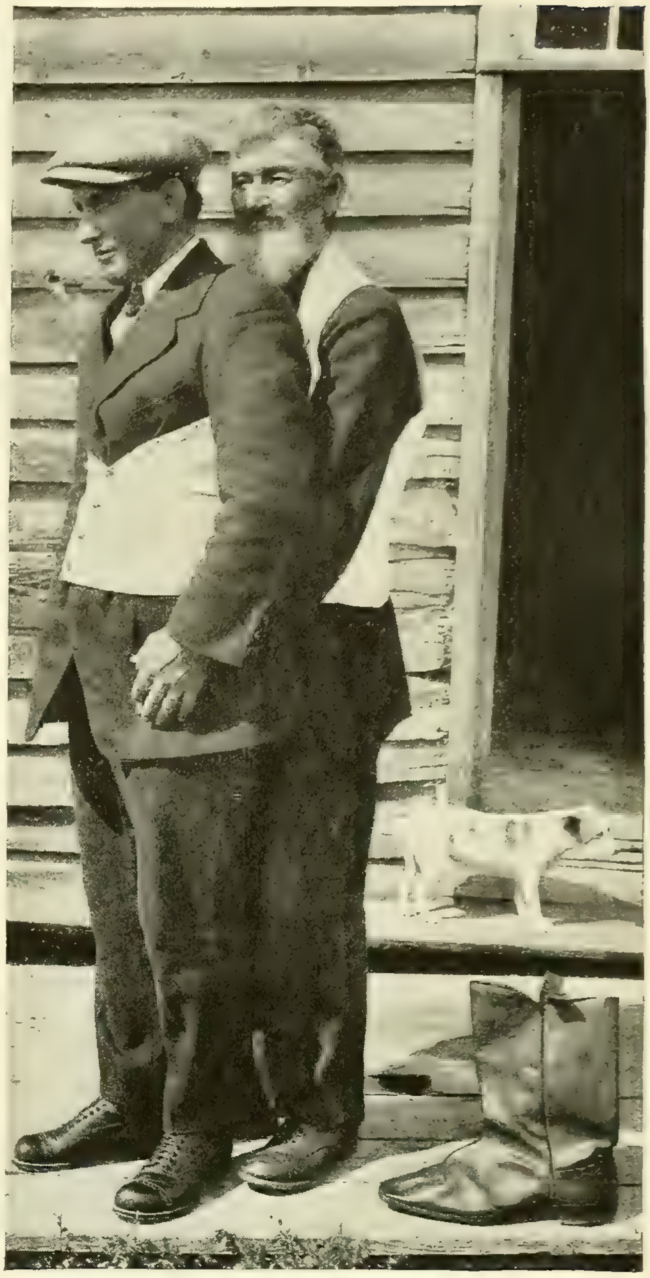
Englishtown was the home of Angus McAskill, the Cape Breton giant, who toured the globe under the same management as Tom Thumb.

That McAskill was seven feet nine inches in height, with the girth of two men, and lifted hundred-pound weights with two fingers, still interests the tourist, who can see the giant's grave and the clothes that he wore, and may, if he wishes, try on his boots. But by his Cape Breton neighbors Angus McAskill is also remembered as a personality, and anecdotes of his kindliness and personal charm are as current as are those of his herculean size and strength.

Beyond St. Anns and Englishtown, with their hills and cliffs and encircling blue waters, the drive along the North Shore is surpassingly lovely. Landward there are ever the hills, near and remote, the green meadows of farmlands "abounding in the richest of milk and Celtic respectability and gravity and hospitality"; seaward the Atlantic, and in the distance, sheer out of the ocean towers "Smoky."

Once seen, the view looking southward from Smoky is never forgotten. Headland after headland in outline reaching out to the eastward, plaster cliffs dazzling white against the distant blue, and, 1,200 feet below, the long roll of the Atlantic.

Across Smoky is the village of South Ingonish, with magnificent sand beach and surf bathing, and beyond the road leads over hill and barren to Neils Harbor, and farther still to Dingwall and Cape North (see pages 57-58).



TWO MEN WEARING THE WAISTCOAT OF CAPE BRETON'S FAMOUS GIANT, MCASKILL: HIS BOOT IS SHOWN AT THE RIGHT

These coast villages are cosy fishing communities, settled in great part by Newfoundland fishermen, with some families of Irish extraction and a sprinkling of Scots. Traces of the early Portuguese occupation have been found along these coasts.

Ingonish, originally Niganiche, was one of Louisburg's outlying posts. In 1729 it had a considerable population and an imposing church. About 70 years ago the bell, weighing more than 200 pounds, was found buried in the

A TROUT POOL NEAR CHETICAMP: CAPE BRETON

CODFISH DRYING IN CAPE BRETON ISLAND

THE CALM BEAUTY OF ASPY BAY: CAPE BRETON

CAPE BRETON'S FARTHEST NORTH: CAPE NORTH

Around this bold Cape Breton headland, which is so lovely in fair weather, sweep tides and currents almost as changing as the winds, making this coast one of the most dangerous shore-lines in the North Atlantic. Yet each little cove contains its fishing settlements whence hardy men venture out every month of the year.

sand of the beach. It bore the inscription: "Pour la paroisse de Niganiche j'ai ete nominee par Jean Decarette et par Francois Urail, parrain et marraine, Le Fosse Huet de St. Malo m'a faite l'an 1729."

On the west coast, north from Cheticamp to Bay St. Lawrence, the scenery is fully as picturesque as that of the eastern side, but until very recently has been less accessible to the tourist.

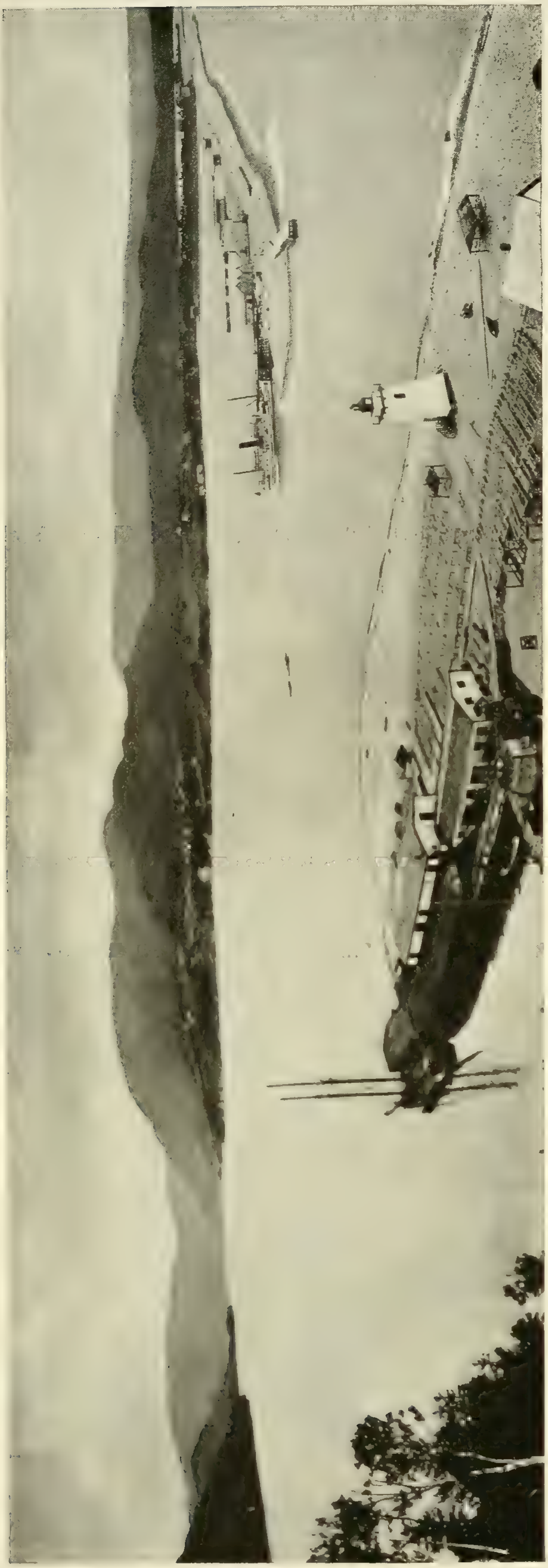
There are ghost stories and tales of witchcraft and second-sight reminiscent of the Outer Hebrides for every rural locality. The Old Nick is a very real personage indeed and frequents lonely roads in various guises, according to the habits of the narrator and the hour of the morning.

A LAND OF NICKNAMES

Cape Breton is noted for its nicknames. Not only are they numerous, but in the Highland communities especially there is an aptness about them that makes them stick—sometimes for generations. More striking, however, than the existence of the purely personal sort of nickname that, after all, is universal, is the prevalence in present-day Cape Breton of the typical Highland by-names and patronymics that centuries ago gave rise to the Sept names of the great Scottish clans.

The custom of identifying families by their pedigrees is as old as Celtic tradition.

So, in Cape Breton today, where there are whole communities of Macneils, or Macraes, or Macleans (in one polling district of 227 names there are 103 Macneils and only eighteen



THE PICTURESQUE HARBOR OF SOUTH INGONISH : CAPE BRETON (SEE PAGE 55)

"Across Smoky is the village of South Ingonish, with magnificent sand beach and surf bathing, and beyond the road leads over hill and barren to Neils Harbor, and farther still to Dingwall and Cape North" (see page 57).

ALEXANDER GRAHAM BELL AND THREE OF HIS GRANDCHILDREN IN CAPE BRETON ISLAND

other names among the remaining 124 voters), there exist the same identifying names current in the Scottish Highlands from the time of Malcolm III.

Where there are a half dozen families of Mackinnons, for instance, sharing in the Christian names of Donald, Angus, and Sandy, etc., Sandy's children are likely to be identified as Donald Sandy or Angus Sandy, or Sandy Sandy; Angus's children will be distinguished as Donald Angus and Sandy Angus, etc. The grandchildren become Angus Donald-Sandy or Sandy Donald-Sandy, and so on, to unbelievable lengths.

If, as often happens, there are more persons of one name than can be so distinguished, one family may be known as Sandy Ruadh (Red), or Sandy Ban (White), or Big Angus, or Little Angus, or Angus the Cobbler, and the adjective may persist to the third or fourth generation.

A generation ago these by-names following the surnames could be found on the electoral voting lists in Cape Breton, and country merchants frequently resorted to them to identify the Duncans and Donalds, Normans and Neils on their ledgers. Even today the bracketed "John's son" or "Rory's widow," which avoids the confusing of the persons with others of the same name, are very common.

In the same way Angus Matheson, carpenter, is distinguished from another Angus Matheson, mason, or from a third who is a wheelwright; and occasionally a genuine family by-name appears like Ranald Macdonald (Bain) or Ranald Macdonald (King), the respective Ranalds being better known as Ranald Bain or Ranald King than by their mutual surname.

In the Cape Breton "nickname," pure and simple, there is the same personal touch that goes with a nickname anywhere—not often complimentary, but very much to the point. Besides "Johnny the Widow" or "Mary-Ann Captain Dan Sandy," which are strictly patronymics, there may be "Duncan the Bear," originating with some personal exploit of Duncan's, or "Willie Holy," whose father was Holy Willie, his piety leaving as much to be desired as the sobriety of Sober Neil, who took his whisky neat and often, like a good Cape Bretoner.

J. A. H. Cameron, in his "Colonel from Wyoming," illustrates this typically Cape Breton form of nickname with the story of Angus the Ox. The hero of the tale was Axe-handle Angus, "who used to do some coopering in the shape of making axe-handles for some of the Sydney merchants. He stole an ox once, long, long ago, and sold it to Archie the Brewer for ten gallons of home-made whisky; and when he came home, after spending three months in jail, instead of calling him Axe-handle Angus, they called him Angus the Ox; they called his brother Donald the Ox and his sister Nancy the Ox."

The family was ever after known as "The Oxen," and the poor people were so sensitive about it that they gave up raising oxen, even for their own farmwork.

CHANGING THE ISLAND'S CLIMATE A REMOTE PROSPECT

The summer weather has no extreme heat, while the island's insular position and proximity to the Gulf Stream give it a winter climate less severe than many more southerly parts of the mainland.

The island is in the latitude of southern France, and if the blocking of the Straits of Belle Isle is accomplished, diverting the cold Labrador currents that now retard the spring, Cape Breton may share with the New England coast in orange and olive growing, and perhaps sunny vineyards will replace the storm-tossed forests on Smoky's rugged face.

The prospect is sufficiently remote, however, to leave undisturbed for the present those of us who prefer Smoky as it is, and the autumn tints of maple and beech and birch, which give gorgeousness to Cape Breton Octobers, to the sunniest vineyards.

Whether it is due entirely to the rugged stock from which they come or (in part) to some virtue of the climate, these Cape Breton descendants of the Scots are remarkably long-lived. Indeed, it would seem that Ponce de Leon missed his objective only by taking too southerly a course, and that in this bracing island air, rather than in softer climes, is the magic elixir of eternal youth.

As "Sam Slick" has summarized it: "I don't know what more you'd ask. Indented everywhere with harbors, surrounded with fisheries, the key of the St. Lawrence, the Bay of Fundy, and the West Indies; prime land above, one vast mineral bed beneath, and a climate over all temperate, pleasant, and healthy; if that ain't enough for one place, it's a pity; that's all!"

ALONG OUR SIDE OF THE MEXICAN BORDER

By Frederick Simpich

Formerly American Consul at Nogales, Mexico, Author of "Where Adam and Eve Lived," "Mystic Nedjef, the Shia Mecca," "The Rise of the New Arab Nation," etc.

THE Mexican border! What a frequent phrase! How it hints at turmoil and intrigue, at wild night rides by cavalry patrols, at gun-runners and smugglers! How suggestive it is, too, of brown-faced, snappy-eyed girls in red skirts and *mantillas,* peddling *tamales* and *dulces;* of Mexican women washing clothes, babies, and dishes in irrigation ditches; of burros, hens, and pigs foraging about adobe doorways!

For years our papers have run news stories under border town date-lines, telling of turbulence and strife, of adventure, romance, and intrigue. Hardly a week passes but a front-page story "breaks" somewhere on the Mexican border. No region in all North America is more frequently mentioned or more widely misunderstood, perhaps, as regards places,* routes, distances, and the habits and customs of its people.

Now a boundary, they used to tell us at school, is an imaginary line between two countries. But in various jails hard by this long line of muddy water and stone obelisks that marks where the U. S. A. quits and Mexico begins, there are always a few tardy fugitives who deny that this line is "imaginary." It unites us with Mexico, or separates us from it, they say, depending on the humor of border sheriffs at particular moments.

At Nogales they tell of a fugitive from American justice, hard pressed by the Yankee police, who fled and fell sprawling fairly across this line—his head and shoulders in Mexico, the rest of his body in Arizona. Frantically his waiting Mexican friends grabbed him by hair and hands, seeking to drag him over to safety.

But a pursuing constable dropped heavily on the fugitive's feet, with a pistol against the American part of his anatomy, and bawled such ominous threats that the runaway squirmed hastily home again. More than one border bad man "bit the dust" because he didn't know just where this line was or didn't reach it in time.

In other ways the social cleavage of this border is sharp and startling. It cuts us off abruptly from another people, showing an odd, interesting "cross-section" of diverse civilizations, proving again what the Roman said about races of men differing in manners and habits, in standards and traditions.

Nor are all the people along this line either Yankees or Mexicans. Thousands of Chinese are settled here, on the Mexican side; and Turks and Japanese, and twenty Indian tribes speaking twenty of the babel of tongues heard in Mexico.

IT'S A LONG, CROOKED LINE

Thousands of settlers migrate to this border-land each year, losing themselves in the vast, hazy-blue stretches of its open country; but they are Americans all, mostly from the Middle West and the South. The hordes of Finns, Slavs, and Neapolitans that pour into our Atlantic ports never get this far; they stop in the manufacturing centers of the East. In Texas and California, of course, native-born generations are found; in the newer States of Arizona and New Mexico most of the residents (barring children) have come from other States.

Adventurous, colorful, and full of contrasts as it is, the 1,800-mile trip along this crooked, historic line is rough and difficult and has been made by few people.

Some of the wildest and least known regions of our country are piled up against this border. Ask any doughboy, of the many, many thousands who have

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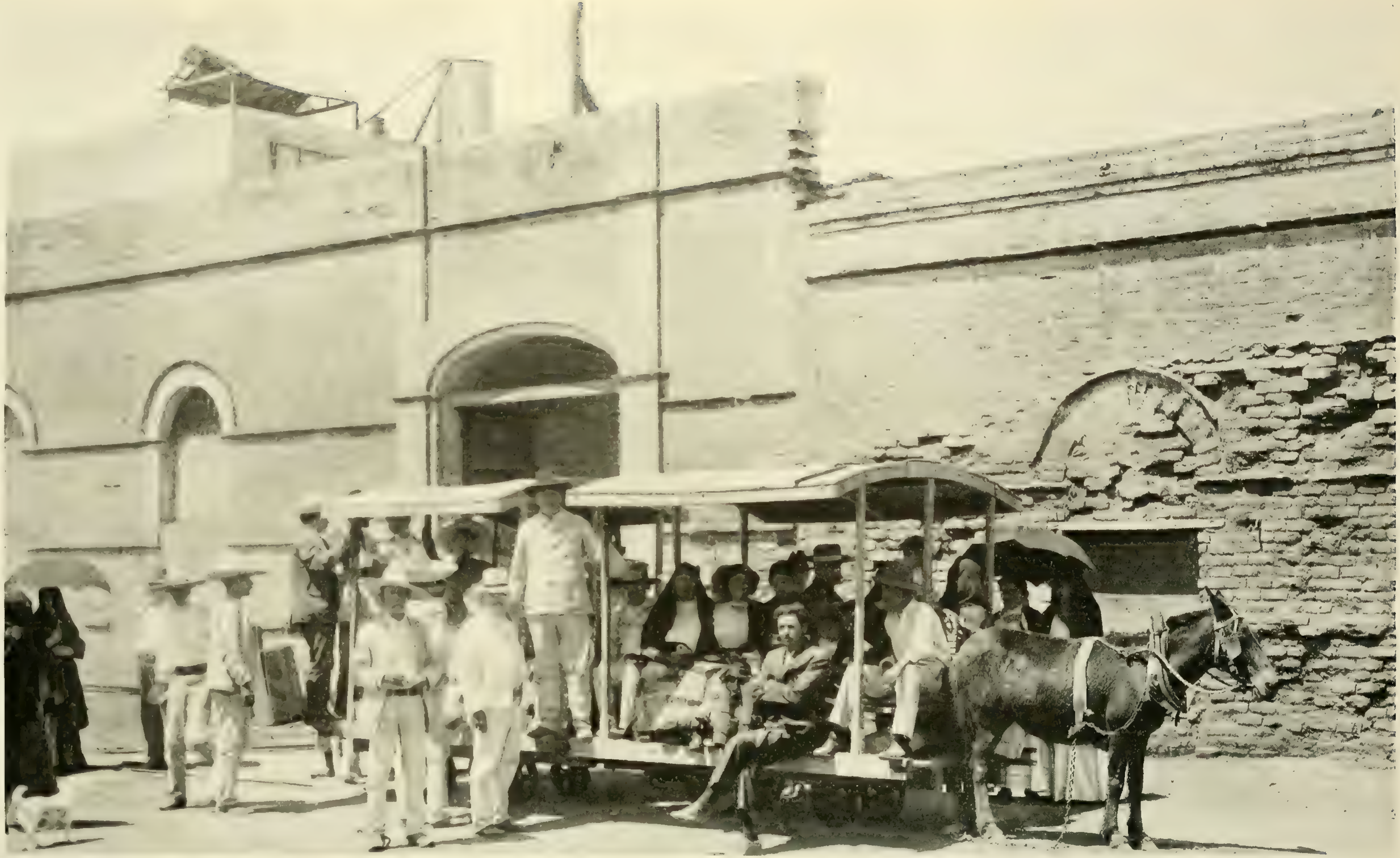
*A common cause of geographic confusion is the large number of towns in our Southwest which bear Spanish names, and the frequent recurrence of these identical town names in Mexico. Names like Santa Cruz, Del Rio, Casa Grande, etc., occur on both sides of the line. "Alamos" are found by the dozen; likewise "San Juans."



Photograph by Harry A. Lawton

A UNIT IN THE STREET RAILWAY TRANSPORTATION SERVICE OF A MEXICAN BORDER CITY

This type of street-car may seem obsolete to the individual accustomed to the modern electric line, but less than a quarter of a century ago the horse-car was in use in Washington, D. C., and it disappeared from the cross-streets of New York City less than a decade ago.

done a "hitch" on the Mexican border, what he thinks, for instance, of Ajo or the Yuma sector (see map, page 75).

From the Gulf up to El Paso, along the Texas frontier, the Rio Grande forms the boundary between the United States and Mexico; thence to the Pacific coast the line is marked by stone or iron monuments (save a short break at the Colorado), so set that one is supposed to be visible from another. By this plan a soldier, miner, or cowman (yes, and a smuggler, too) can always tell which side of the line he is on; or, if wholly lost and he comes suddenly on a monument, he can soon get oriented.

The Rio Grande part of this border has caused both Uncle Sam and Mexico much work and mental anguish. During bad floods the line as formed by the river squirms around in so astonishing and lively a manner that what is Mexican soil one day may be in Texas the next, and *vice versa*.

Then, too, there is the ever-recurring problem of dividing the waters of the river for irrigating purposes. Around such places as Laredo, Texas, this situation affords many an acrimonious international argument, especially during the low-water period in the summer.

Sometimes the Texans open their sluices and threaten the ruin of the little *fincas* on the opposite bank; then the brown brother recalls the time when the grand Mexican State of Coahuila extended westward to the Pacific Ocean and almost up to Kansas City, Missouri, and his remarks are quite untranslatable.

When there is a heavy snowfall in the mountains of New Mexico and Colorado, the spring freshets fill the Rio Grande with a flood that brooks no turning; weirs, gates, and bridges are swept away, the river banks and the adjacent farms are often submerged, and the nagging contestants for the river's midsummer favors are forced to flee to the highlands.

RAILROADS THAT CUT THE BORDER

Railroads cut this long border line at Brownsville, Laredo, Eagle Pass, and El Paso, Texas; at Douglas, Naco, and Nogales, in Arizona, and at Calexico and Tia Juana, in California. Only four of these railroads, however, are main lines of through traffic that penetrate the interior of Mexico; these start at Laredo, Eagle Pass, El Paso, and Nogales.

Mexico itself, area considered, has comparatively few miles of railroad, and there is no line traversing its northern frontier east and west, like our Southern Pacific, which practically parallels most of our southern border.

Mexicans are restless. The peons like to ride. Whenever they have saved money from a few days' work, they swarm up and down these lines to border towns, carrying women, children, bird-cages, blanket rolls, and family utensils, running to and fro apparently as aimlessly as the inhabitants of a disturbed ant-hill.

ALONG THE TEXAN FRONTIER

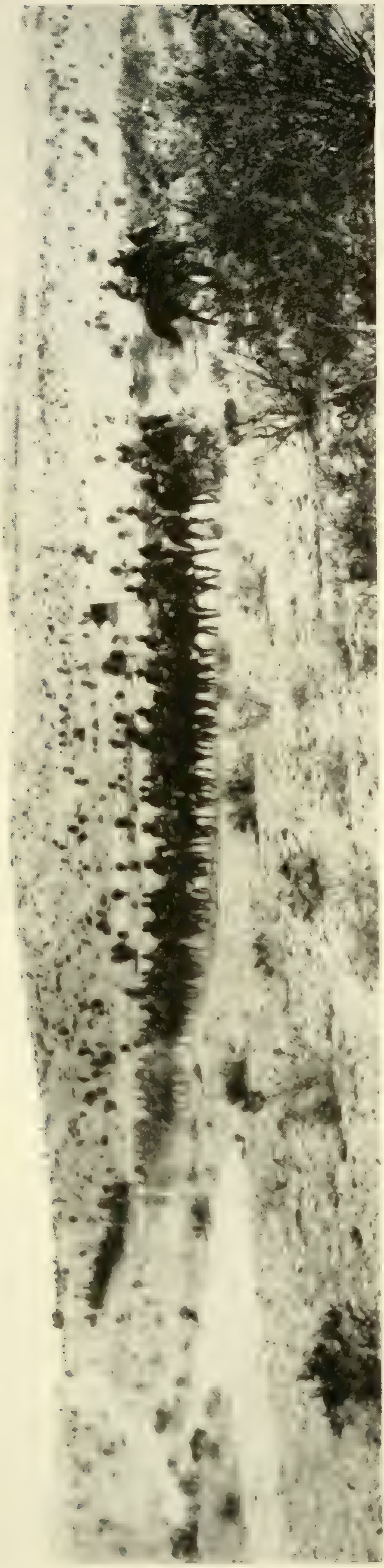
You visualize the bigness of Texas when you look at the length of its side that borders on Mexico. It has been said that "if you should tip the State up and drop it north, like a flapjack, it would fall on St. Paul; tip it east and it would splash in the Atlantic; south, it would blot out most of Mexico." Its area is more than double that of the British Isles.

You realize its emptiness, too, when you travel through some of its border regions, where the population is less than two per square mile. If all the people in the United States were put in Texas, it would still be scarcely more than two thirds as crowded as England.

No section of the border has seen so much of adventure, tragedy, and turbulent activity as Texas. The flags of France, Spain, and Mexico have waved over it; for a time it flew its own Lone Star and also the Confederate flag.

"If I owned Hades and Texas, I'd rent Texas and live in the other place," Phil Sheridan said when, as a young lieutenant, he stood "The Watch on the Rio Grande," way back in the 50's. But since then Texas, like Arizona, has cast out its devils. It was absolutely "bone dry" long before July 1, 1919; today only the police can "tote" guns; poker is taboo, and even bridge for a cent a point may land you in the "hoose gow"—Texas for *juzgado* (jail).

In Brownsville you hear more Spanish than English, because most of the 8,000 people who live there are Mexicans. Till



Photograph by International Film Service

AN AMERICAN ARMY ESCORT ACTING AS A CONVOY FOR SUPPLIES ALONG THE MEXICAN BORDER

The scene is that of a typical alkali plain, where only snakes and cacti thrive, and where the dust is so penetrating that it will find its way into the watch in one's pocket. Before railways were built in the southern republic, a Mexican president characterized this desert as his country's strongest defense against invasion.

the railroad came, a few years ago, this remote, isolated region was practically unknown to Americans at large. It is still a wild, thinly populated, stock-growing district. The natives plow and haul largely with ox-teams. As one writer said, "Even if Texas has been occupied by white men for four centuries, it is still somewhat new in spots—and big spots at that."

Zachary Taylor built a fort in 1846 hard by this same Brownsville. When his men got into a shooting scrape with Mexican soldiers from Matamoras they started the Mexican War, and the Rio Grande became the boundary between the two republics.

Up the river from Brownsville lies Laredo, most important border town in south Texas, even if an old map does call this vicinity "a wilderness filled with wild horses." Here you may still see the ruins of old stone houses and tanks built by Spanish planters generations ago.

Laredo staged many dramatic events in the stirring annals of Texas. Today, however, the people have turned from romance to onions. They shipped 2,500 carloads in one season.

Till the International and Great Northern Railway extended its line from San Antonio, Laredo also was shut off from the rest of Texas; now it is the main port of entry for traffic with Mexico City, over the Mexican National Railway.

Eagle Pass, on up the Rio Grande, was a favorite camping spot for the California gold-hunters in '49. Yankee freighters from St. Louis, too, used to drive through here for Chihuahua and Durango.

Worn, weather-beaten carretas, clumsy carts with solid wood wheels sawn from huge logs and built wholly without nails or spikes, are occasionally seen even now, abandoned in some brush-grown corral, reminding you of the slow, tedious transportation of early days, when it took a year to get freight from New York to Durango.

Now a branch of the Southern Pacific strikes the border at Eagle Pass, and from the Mexican town of Piedras Negras (Black Rocks), just opposite, a line of the Mexican National runs south into one of Mexico's most fertile regions. This gives Eagle Pass a brisk trade.

No spot on the whole border affords more of impressive grandeur than the region about the mouth of the Pecos. This yellow, turbulent stream roars into the Rio Grande near the town of Del Rio, foaming along the bottom of a steep-walled canyon worn hundreds of feet deep in the solid rock. The Southern Pacific Railway crosses this canyon, near the border, on one of the greatest steel trestles ever built.

At the old Fort at Camp Verde, north of Uvalde, is a relic of one of the oddest experiments ever made by our government. It is an Arab *khan,* in ruins now, but in its time an exact replica of the rectangular adobe caravansaries built along such caravan trails as that from Bagdad to Teheran. Back in 1856, when Jefferson Davis was Secretary of War and the famous experiment was made with camels for army transport use between Texas and California, this *khan* was built.*

As you follow the border west, oaks, pines, and underbrush decrease, aridity increases, and cacti lift their thorny heads. Cattle, goats, and sheep are pastured in large numbers; but, except for irrigated areas along the river, the country is thinly settled and undeveloped. Border counties like Brewster, Presidio, and El Paso are of amazing area—larger than some of our small eastern States. Windmills are everywhere—"big electric fans to keep the cattle cool," a waggish cowboy once explained to a London tenderfoot.

El Paso ("The Pass"), great border mart of west Texas, is set on the edge of a rich stretch of the Rio Grande Valley. It stands at the point of intersection of two old highways, the first channels of traffic established by white men in America.

A popular automobile trail to the Pacific coast now runs this way. Coronado, pathfinder for border tourists, blazed the way in 1540, on his march to Santa Fe, and long ago El Paso was the headquarters for the Spanish Government in this part of America.

THE ONLY LARGE CITY BETWEEN SAN ANTONIO AND LOS ANGELES

El Paso is the only large city from "San Antone" to Los Angeles, a ride of 1,500 dry, dusty miles. It is well served by both American and Mexican railways, and its merchants buy and sell goods for hundreds of miles below the Rio Grande. Despite the arid country about it and its occasional blinding dust-storms, its climate is exceptionally good, owing to high elevation.

Summer showers afford a rainfall of about 10 inches. Soil is fertile in the valleys cutting the adjacent plateau country, and good crops are grown wherever ample irrigation is possible.

The largest irrigation reservoir anywhere is the great Elephant Butte dam, which stores more water than the world-famous Assuan dam on the Nile. This big dam, built in the Rio Grande above El Paso, at a point in New Mexico, holds water enough, we are told, "to fill a standpipe 11 feet in diameter reaching from El Paso to the moon, or to cover Massachusetts to a depth of six inches!" Enough water can be stored to last through four dry seasons and to irrigate

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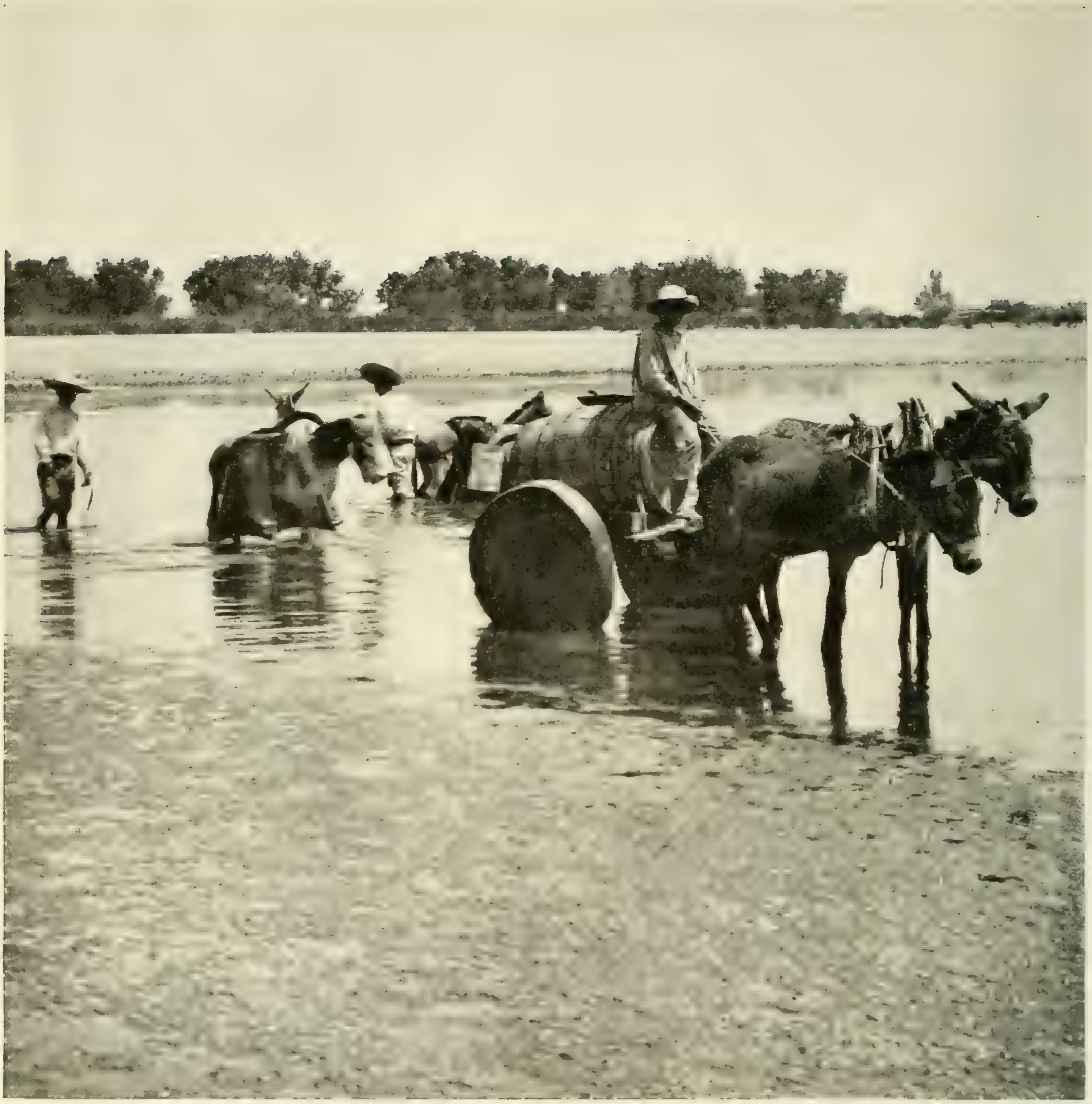
*Camel transportation along the Mexican border was undertaken by the government with two herds, totaling about 75 animals, including a few two-humped Bactrian males, imported for breeding purposes. Six Arabs and a Bedouin camel doctor came along, from Smyrna to Texas. Lieutenant Edward F. Beale, under orders to establish a military road from San Antonio to California, used these camels in transport work. The camels were given a thorough test, and in Beale's report he spoke in highest terms of their work; but army horses and pack-mules were stampeded; obstinate mule-skinners refused to handle "circus animals"; so finally the camels were disposed of. Most of them were sold to zoölogical parks, but a few either got away or were turned loose on the desert. Prospectors, enraged when these ungainly brutes terrified their pack-mules, used to shoot them on sight. Even now, once in a while a desert rat drifts into Yuma or Gila Bend and vows he's seen a wild camel on the desert. Maybe he did, but nobody believes him.



Photograph by Harry A. Lawton

PRIMITIVE WATER-CARTS IN USE ALONG THE MEXICAN BORDER

In some portions of Mexico the maximum rainfall approaches world records, but in the north, along the border, water rights are at a premium. Feuds, accompanied by the use of dynamite in diverting irrigation channels, have occurred in the cotton-growing lands of Lower California and Sonora. In many cases the supply of water permitted to flow through the irrigation ditches is calculated down to the very minutes per month.

300 square miles; but by an international agreement a part of the water goes to irrigate land in Mexico.

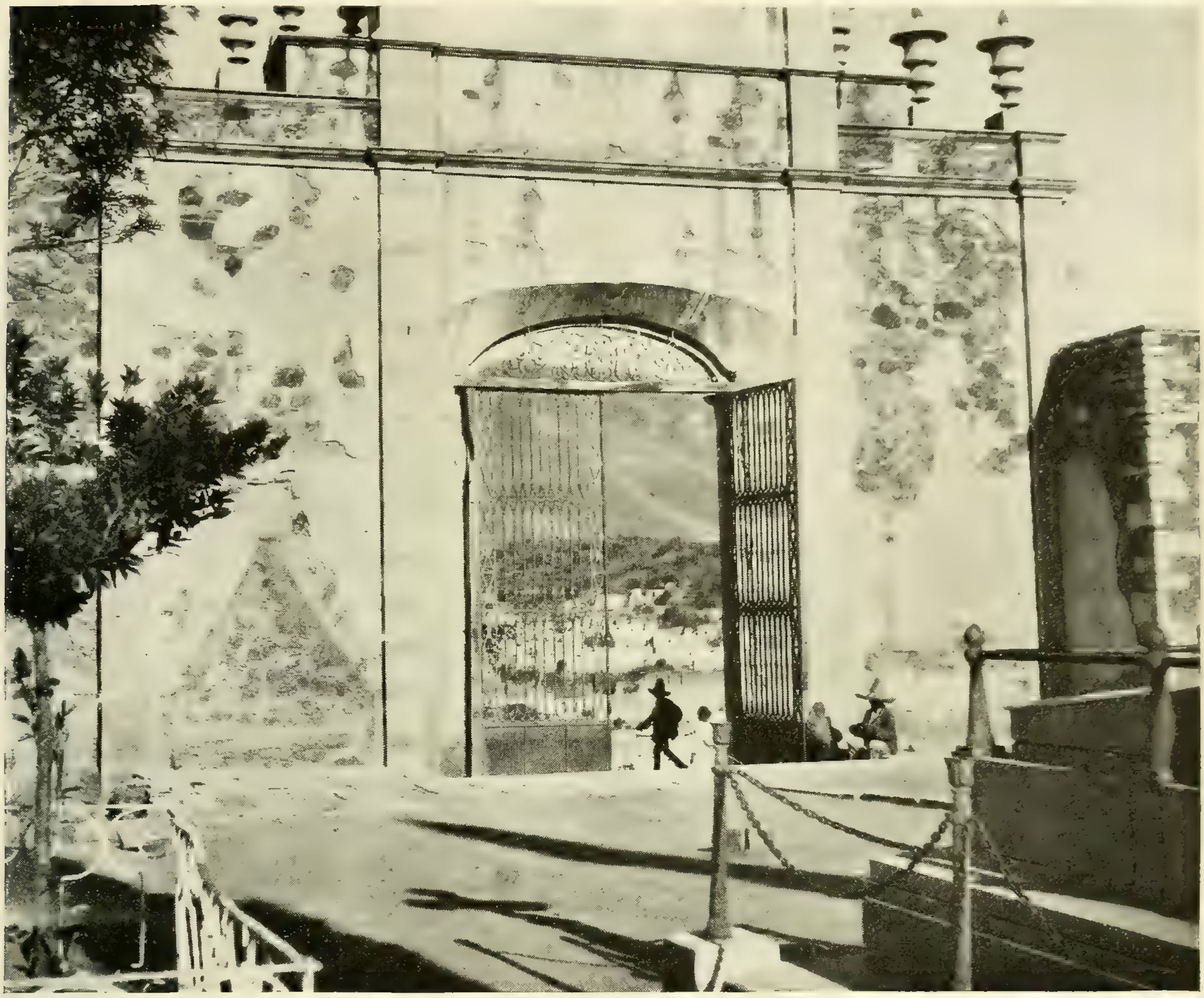
Fort Bliss, one of our largest permanent military barracks, is built just outside El Paso.

JUAREZ, A CITY KNOWN CHIEFLY FOR ITS BATTLES AND GAY AMERICAN TOURISTS

Juarez, El Paso's sister city across the Rio Grande, like most Mexican border towns, is known chiefly because of its pitched battles and its bizarre methods of entertaining sporty American visitors. Whatever it enjoys of life and prosperity it draws from Yankee tourist patronage.

A wooden bridge spans the river here, and El Paso street-cars loop over into Mexico—when the looping is safe.

Thousands of tourists swarm across this bridge each year to play the races, have a fling at keno or chuck-a-luck, or



Photograph from Frank H. Probert

AN ORNATE WROUGHT-IRON GATEWAY TO ONE OF MEXICO'S CITIES OF THE DEAD

Many of the cemeteries of the southern republic suggest the catacombs of Rome and the Campo Santo of Genoa. Tombs are rented by the month or year, and when the relatives of the departed fail to pay the fee required, the sheeted dead are unceremoniously dispossessed, their bones being thrown upon a pile where hundreds of others have suffered a like fate.

to mail bullfight or *ballerina* picture postals to the home folks to show that the writer has been "gay, blithe, and devilish in foreign parts."

It is a typical Mexican frontier town of squat, one-story adobe houses (plastered and painted light blue or pink), of *tiendas,* plazas, casinos, bull rings, Chinese restaurants, curio stores, and often a few lurking American derelicts waiting here till the sheriffs in their home towns are dead.

Like the natives of Nogales, Agua Prieta, and Naco, most of the peons of Juarez make a living by working in the adjacent American border town—swarming to the American side, carrying babies and bundles, when the rebel alarm is raised. From Juarez, Mexican railways lead off south, connecting with most important interior cities.

ONLY EIGHT INCHES OF RAINFALL ALONG THE LINE

From the point at Monument No. 1 where the boundary line crawls out of the Rio Grande (at the southeast corner of New Mexico), it strikes west into a wilderness of singularly dry and empty aspect. For 40 miles along this march the traveler must carry his own water.

Near Columbus a few small trees appear, and here, too, a wagon trail from Deming down to the American Mormon colonies in Chihuahua crosses the border.

To the west lie the rough, hostile foothills of the Dog Mountains; near here, in the San Luis Range, the line reaches

Photograph by Harry A. Lawton

A SHADY LANE ON A HACIENDA IN SONORA

Small farms are almost unknown in Mexico. The haciendas are vast landed estates embodying many features of the medieval feudal system. Until a few years ago, the haciendas were in the hands of 6,000 persons among a population of nearly 15,000,000. Some of these estates extended over scores of square miles and had as many as fifty miles of irrigation ditches within their bounds.

a point 6,600 feet above the sea, marking the continental divide. When that redoubtable outlaw, "The Apache Kid," led his renegade Chiricahuas, they made this locality their rendezvous; and through this same San Luis Pass runs the old emigrant trail.

Slightly west of the 108th meridian, the line turns at right angles and runs south for a few miles, thence west again.

In the San Bernardino Valley the line strikes the first running water after quitting the Rio Grande—192 miles to the east. Here rises the famous Yaqui River, that long, crooked stream that meanders through the vast Mexican State of Sonora and through the turbulent Yaqui Indian zone, finally emptying into the Gulf of California below Guaymas. Thousands of cattle find pasture around the marshy flats of this San Bernardino Valley, and here an old Spanish trading post lies in ruins.

In the whole 700-mile stretch from the Rio Grande to the Pacific, this line crosses only five permanent running streams, and the average rainfall throughout its length is only eight inches.

This border was first fixed by the Treaty of Guadalupe Hidalgo, and subsequently modified by the Gadsden Treaty, or "The Treaty of Mesilla."

In 1891-1896 a new joint commission erected the present monuments, the original heaps of stone having in many places been tampered with or carried away by prospectors for use as mine-boundary markers. These modern tombstone-like obelisks are made of rock where rock is available; in other places cast-iron monuments are set up on cement pedestals. They are never more than five miles apart.

Save the hamlets of Columbus and Hachita, the New Mexican section of this border is almost uninhabited.

WHEN APACHE HUNTING WAS THE GREAT SPORT

Hurdling this line in pursuit of Geronimo and his Apaches was for years a favorite outdoor army sport in these parts; but nowadays most ambitious residents are mining copper, roping and branding cattle, or fussing with irrigation ditches.

Around the camps and corrals, however, many grizzled freighters and post traders of earlier days are still loitering; and, true to form, they would rather talk of outlaws, stage-robbers, and historic killings than listen to a farm adviser tell how to outwit weevils or vaccinate a heifer.

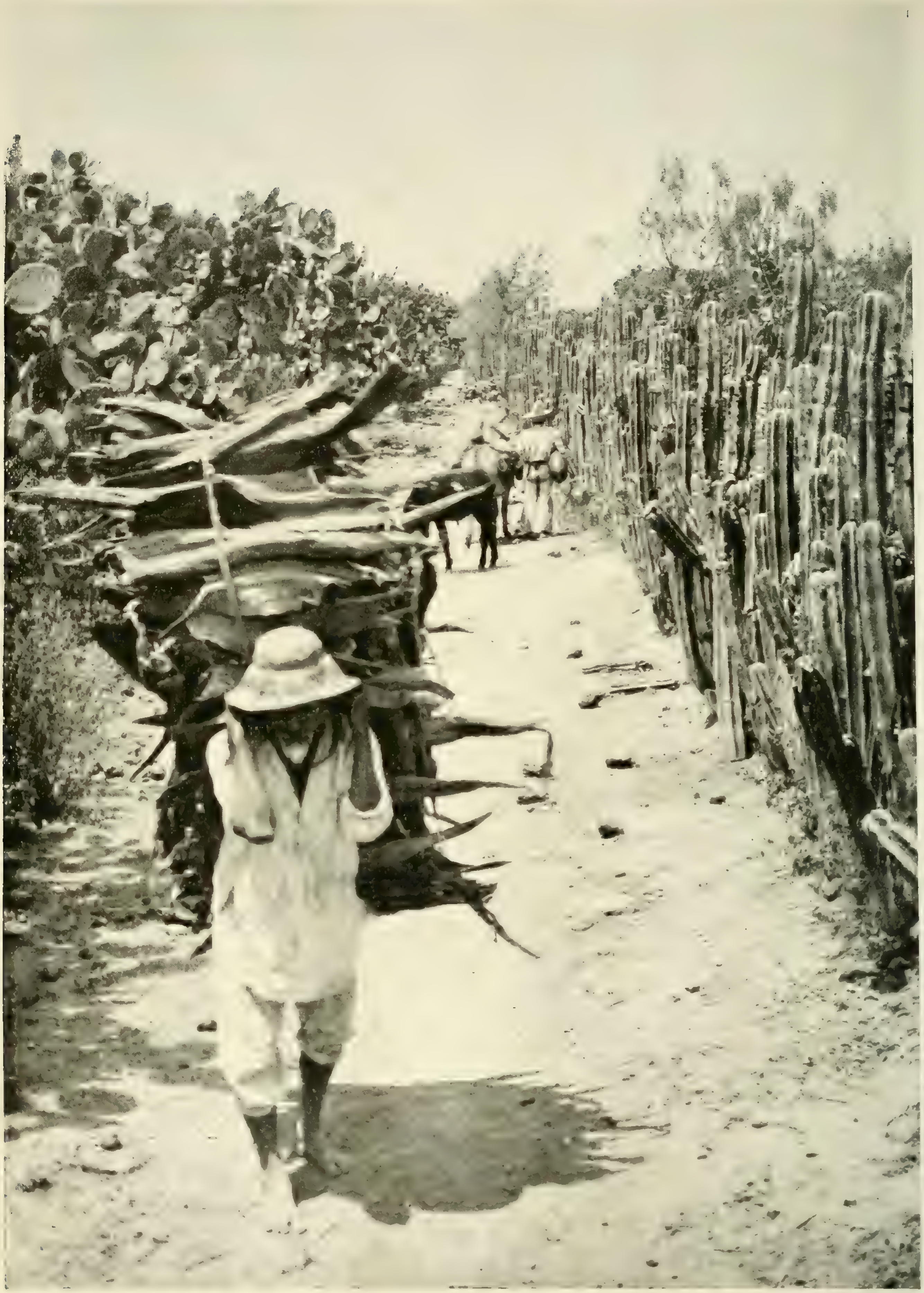
One of these old-timers told me how he once slew eight *broncho* Apaches, and then hung them up by their feet to a stout mesquite tree near Lochiel; and that same night a hastening party of Las Cruces peddlers, bound for Hermosillo with a wagon-load of calico, came up and unwittingly camped almost beneath the live oak where the dead Apaches were hanging. Suddenly discovering the terrifying display, the peddlers hastily hitched up and did not make camp till they reached Magdalena, miles to the south.

Today the tamed Apache up around Globe is about the most trustworthy, diligent, and industrious farm laborer to be found in the State; and the two-gun man has gone to the movie studios of California, where the risk is nil and the stakes more certain. Freight wagons along the border are replaced by big auto-trucks, and the old trails are turned into motor highways covered with "camping-out" trippers whose cars bear pennant labels of towns from Peoria to Pasadena.

PUBLIC BATHS WHERE COYOTES RECENTLY ROAMED

Not long ago coyotes were chasing horned toads over an empty desert where Douglas now stands, with libraries, country clubs, theaters, a great Y. M. C. A., public baths, street-cars, and a hotel that might have been lifted bodily out of Cleveland or Kansas City.

The giant smelters at Douglas have run day and night since they were built, a dozen years ago, and have handled thousands of trainloads of ores from Bisbee and Nacozari (in Sonora). At night white-hot streams of molten slag, pouring on the dumps, throw great light flashes against the sky, remindful of Pittsburgh. During a six months' busy period in 1916 the "Copper Queen" and "Calumet and Arizona" smelters handled 131,000,000 pounds of copper, which at, say, 25 cents a pound, would give a value of $32,000,000.



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MEXICAN FUEL VENDERS AND PULQUE GATHERERS IN A CACTUS LANE

Thorny cacti such as these provide an almost impenetrable wall, from which even the hardiest trespasser shrinks.

Just over the line from Douglas lies Agua Prieta, from which point an American-owned railway runs south to the mining town of Nacozari, where the model mining camp of all Mexico is operated by the Moctezuma Copper Company, an American corporation.

Drab, dusty Agua Prieta, with its sleepy peons and sad-eyed burros, has a singular faculty of suddenly coming to life and getting front-page publicity from Boston to San Francisco. In its tumultuous recent years it has experienced everything from kidnapping, lynching, and robberies to artillery duels with Villa. Lately a person who coveted his neighbor's ass was found swaying on a rope, with this placard tied to his dangling feet: "He stole mules."

Douglas is about 4,000 feet above sea-level, with 14 inches of rain annually. Ten years ago the land hereabouts was empty. Today artesian wells are flowing—some as much as 600 gallons a minute—caterpillar tractors crawl across the vast Cochise, Sulphur Springs, and Paradise valleys, and the remaining unappropriated land is fast being filed on. There are three methods by which land is secured: direct purchase from the government, homesteading, and under the Desert Land Act.

West of Douglas, eight miles north of Naco, on the line, and quite hidden in the barren Mule Mountains, lies the quaint, up-side-down, busy, hustling Bisbee. Its main street runs up a deep canyon, many of its houses clinging like pigeon cotes to steep hillsides.

In times of freshet, mad torrents tear through it; once water was several feet deep through the lower floors of stores and houses. "Tombstone Street" and "Brewery Gulch" are suggestive of earlier and woollier days.

The popular Borderland Highway, connecting El Paso, Douglas, and Tucson with California, passes this way. Part of this route hereabouts was built with prison labor, under the "honor system" of Governor Hunt.

From Naco, notorious border village astride the line, the El Paso and Southwestern Railway strikes off northwest for Tucson. To the southwest runs a branch of the Southern Pacific of Mexico, serving the great Cananea Consolidated mines (American owned) and connecting at Del Rio, Sonora, with the Nogales branch of the same railway.

West from Naco, conspicuous in the vast grassy stretches of the San Pedro Valley, the straight row of stone monuments marches on, to climb into the wooded Huachuca Range; and a few miles to the northwest lies the shell of ancient, iniquitous, profligate Tombstone.

WHEN TOMBSTONE ACHIEVED FAME

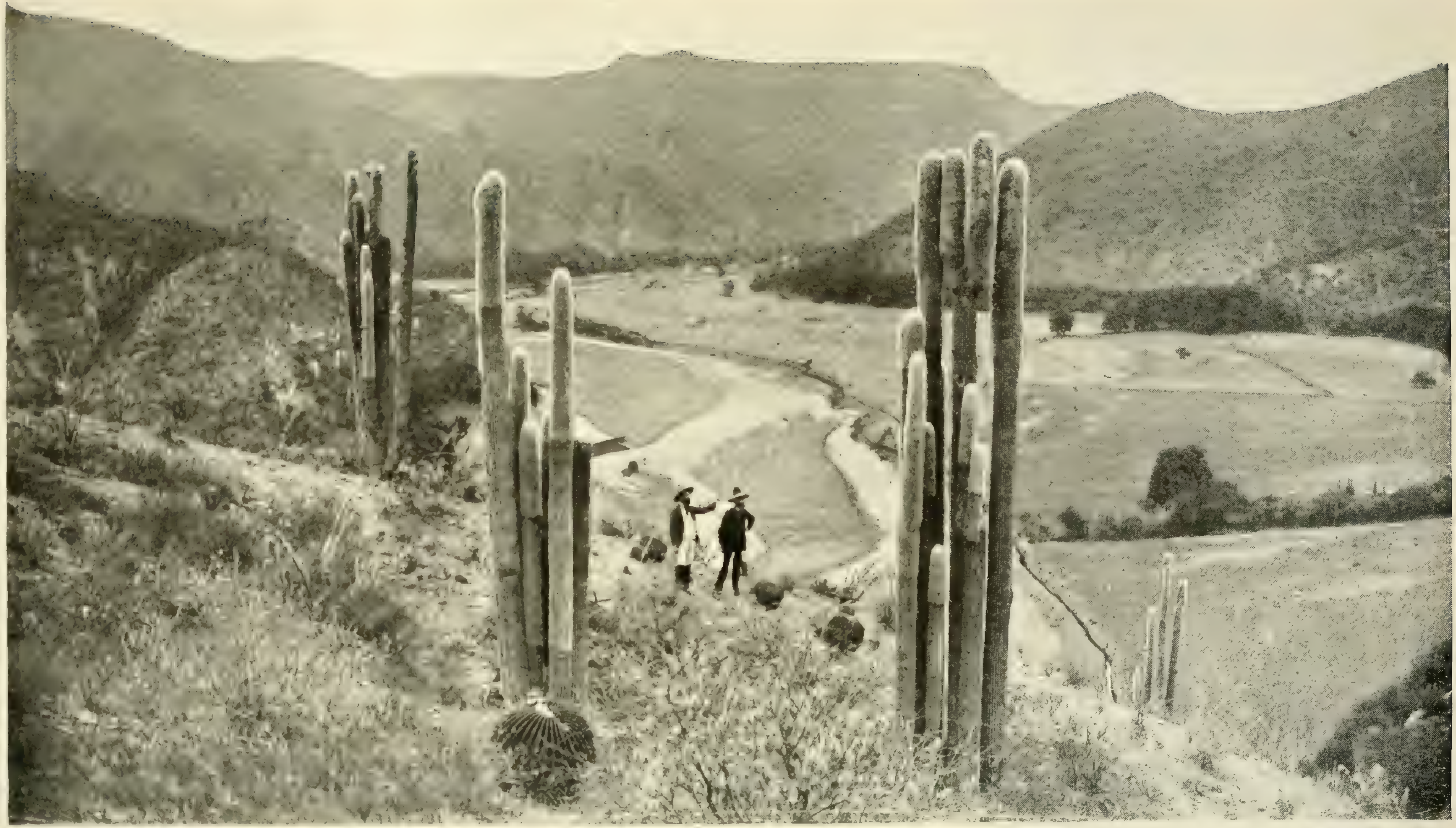
The baffling psychology of names is nowhere more strikingly shown than here. From the day in 1878 when Ed Schiefflin, dodging Apaches, slipped into this canyon with his burros and struck the ledge that made him millions, Tombstone achieved fame. Motor parties on the Overland trail now pass this old prospector's tomb—an odd pyramid of boulders near the spot that made him rich.

Here were such mines as the "Ground Hog" and the "Lucky Cuss." Ore from the latter ran $9,000 a ton. The very name of the town drew the world's attention to it. Here one pioneer jester occasionally issued the famous *Arizona Kicker,* whose heroes used guns that shot around corners and up stove-pipes. Another sheet is (or was) named the *Epitaph;* and hereabouts, later on, the lively imagination of Alfred Henry Lewis gave us the "Wolfville" stories.

Climbing the Santa Cruz River west of old Camp Duquesne, the line runs over high, rolling grassy hills scantily covered with stunted live-oaks, and fairly splits in half the important border city of Nogales, entrepôt for all the trade of the Southern Pacific of Mexico. From this point branch lines also strike off north to Tucson and northeast to Benson.

Through this gap in the hills that Nogales now fills runs the ancient trail, worn ages ago by Toltecs and Aztecs and followed later by Spaniards and Jesuits in their advance from Guadalajara to California. Famous Father Keno (or Kuhn, to give him his real name) passed this way, and a few miles north of Nogales, in the Santa Cruz Valley, the ruined mission of Tumacacori (now a national monument) still rears its battered head.

Hard by lies the ancient Presidio of Tubac, where for years a Spanish garri-



Photograph from E. W. Nelson

THE HUGE CANDELABRA CACTUS OF MEXICO OFTEN REACHES A HEIGHT OF SIXTY FEET

The average rainfall along the Mexican border from the Rio Grande to the Pacific is probably less than in any other section of the United States—about eight inches annually, and on the Yuma and Colorado deserts it drops to two or three inches. This boundary line, more than 700 miles in length, crosses only five permanent running streams. It is remarkable that, although arbitrarily chosen, the line from the Rio Grande to the Colorado River follows almost exactly the summit of the divide which separates the waters flowing north into the United States and those flowing south into Mexico.

son was kept and whence Don Juan Bautista de Anza set out in 1774 to build a highway to California. It was this same Don Juan who chose the site for San Francisco on the Golden Gate.

Today near Tubac an American rubber company has bought thousands of acres of Santa Cruz Valley land and is farming guayule on a big scale for the manufacture of rubber. Nurseries for propagation of young plants are set up and a model town of cement houses and shady streets for the employees is already built.

Nogales, 3,800 feet above the sea, enjoys a singularly prosperous trade for a town of its size. The declared exports from Mexico run as much as twenty millions a year. As at other important border towns, adequate military forces are stationed here, with permanent barracks, hospitals, recreation halls, and stables. Some 12,000 people live on the American side of the line, and a somewhat lesser number in the Mexican town.

For police purposes, a high barbed wire fence is strung along the boundary line here, dividing the twin cities.

Nogales has foundries, bonded warehouses, strong banks, daily papers, and clubs, and is surrounded by rich mines and profitable cattle ranches.

Nothing along the whole border is more chastely beautiful than the old Mission of San Xavier del Bac, just south of Tucson, on the Nogales highway. It is pure white, visible for miles across the desert, and is built in the form of a cross. It is really one of the great historic memorials of the United States. Nowadays the peaceful Pimas work their little farms and come devoutly to mass in this old church, where years ago other Pimas slew the priests and tried to destroy the building.

A short ride west of Nogales the due-west trend of the line is broken, and it veers northwest by west, straight to the Colorado River, striking that stream a few miles below Yuma.

This part of the boundary was first explored and run by one John Bartlett, after the Treaty of Guadalupe Hidalgo and the Gadsden Purchase. No section of the whole boundary line is so wild, dry, uninhabited, and little known as this which stretches from Sasabe to the Yuma desert. Only a few smugglers, Yaqui gun-runners, and the wary, tireless line-riders who hunt them really know much of this arid, empty waste.

A $600,000 SUBSIDY FOR A STAGE-COACH LINE

After this Gadsden Purchase survey, Congress in 1853 granted money for exploring a railway route from the Mississippi to California; but trains did not run till 31 years later. In 1857, however, mail and passenger stages were started, under a government subsidy of $600,000 a year. This line used 100 Concord stages, 1,000 horses, 500 mules, and about 150 drivers. The fare from St. Louis to San Francisco via this border route was $100. Official orders defined the border route in part as "from Preston, Texas, to the best point of crossing on the Rio Grande, and not far from Fort Fillmore; thence along the new road being opened and constructed, under the direction of the Secretary of the Interior, to Fort Yuma; thence through the best passes and along the best valleys for safe and expeditious staging to San Francisco."

But that part of the trail from Tubac, Arizona, to California was worn and old long before the lumbering Concord stages, making a hundred miles a day, began to use it.

Rafael Amador, an official courier with messages from Santa Ana to the Governor of California, rode from Mexico City to Monterey in some 40 days. Though stripped and robbed by the Yumas and nearly dead of thirst and hunger, yet he made it.

The coming of General Kearny, with his "Army of the West," to attack the Mexicans in California, in 1847, first mapped out this border trail and made it the main traveled route for the forty-niners. Fully 8,000 passed this way, many dying of thirst. Once in a while prospectors out of Yuma still come upon rusting parts of schooners or whitened bones of men and mules.

Kit Carson, too, made a memorable dash across this desert in '47, with a young army officer named Beale, carrying dispatches from the Fremont party to Washington. (This same Beale later introduced camels into the desert traffic. See footnote, page 65.)

Significant of changing things, scores

of well-to-do travelers now desert the comfortable Pullmans to motor along the borderland trails, following the old stage route past historic Tombstone and San Xavier. Most motor tourists, however, use the Santa Fe trail via the Petrified Forest, Flagstaff, and Needles. These motor trails are fairly well maintained and are amply marked with sign-boards as to direction, distances, and the proximity of water and gasoline.

BEEF IS EVERYWHERE

No feature of the trip along this border from El Paso to Nogales is more amazing than the vast numbers of meat-bearing animals to be observed.

Besides introducing the horse, the provident Spaniard also brought cattle, sheep, and goats; and it is probably to Juan de Onate, who reached the Southwest about 1598, that we owe our present wealth of mutton and beef.

As the country was settled, cattle-raising grew as an industry, and, there being no fences, the herder or cowboy was developed. From these Mexican or Spanish *vaqueros* we learned the use of the "rope," or *lariat*—corrupted from *La Riata*. From them, too, we learned to "cut" an animal from a herd, and to brand for identification.

However, due to Indian raids, it was years after Americans entered this region before the cattle industry was safe enough to be profitable.

After Kit Carson rounded up the Navajos at Bosque Redondo, and after Crook gave the Apaches a final walloping at Hell's Hip Pocket (near Fish Creek Hill, on the modern Apache motor road past Roosevelt Dam), the cowman's trade was easier. Then the rise of the cattle baron began. Might was law, and the sheepman and farmer were out of luck.

Of course, law and order long ago intervened, and the cow and sheep men no longer "draw" on sight and start shooting. But the cowpuncher still has his own opinion of any man who keeps a sheep!

Feuds between rival cow camps are no more; it is no longer good form to brand the other fellow's calves, even if you can "get away with it." Border cattlemen now have associations organized to secure better freight rates, protective laws, and coöperation in marketing cattle. Many cowmen run herds on both sides of the line.

But you can still tell a Texas cowman from his brother in Arizona. The Texas hat, saddle, cinch, bit—even the Texas talk and mental attitude—are quite different from the Arizona article.

At Yuma, where the Southern Pacific now bridges the Colorado, thousands of immigrants were ferried over in days gone by, and Yuma Indians once slew the ferryman and many other whites.

South of Yuma, for a short distance, the Colorado River forms the boundary between the United States and Mexico, the line here running almost north and south. Below the railroad bridge it quits the river, and strikes due west across the Imperial Valley Canal (running into Mexico here), and thence into the sand hills and on to the Imperial Valley.

No other part of the United States is so hot as this. Often the thermometer stands at more than a hundred at midnight; day shade temperatures of 125 Fahrenheit are common. Sahara-like sand-storms blow, so that even stretches of the plank auto road west of Yuma are soon lost in the dunes, and have to be excavated when the storm has passed.

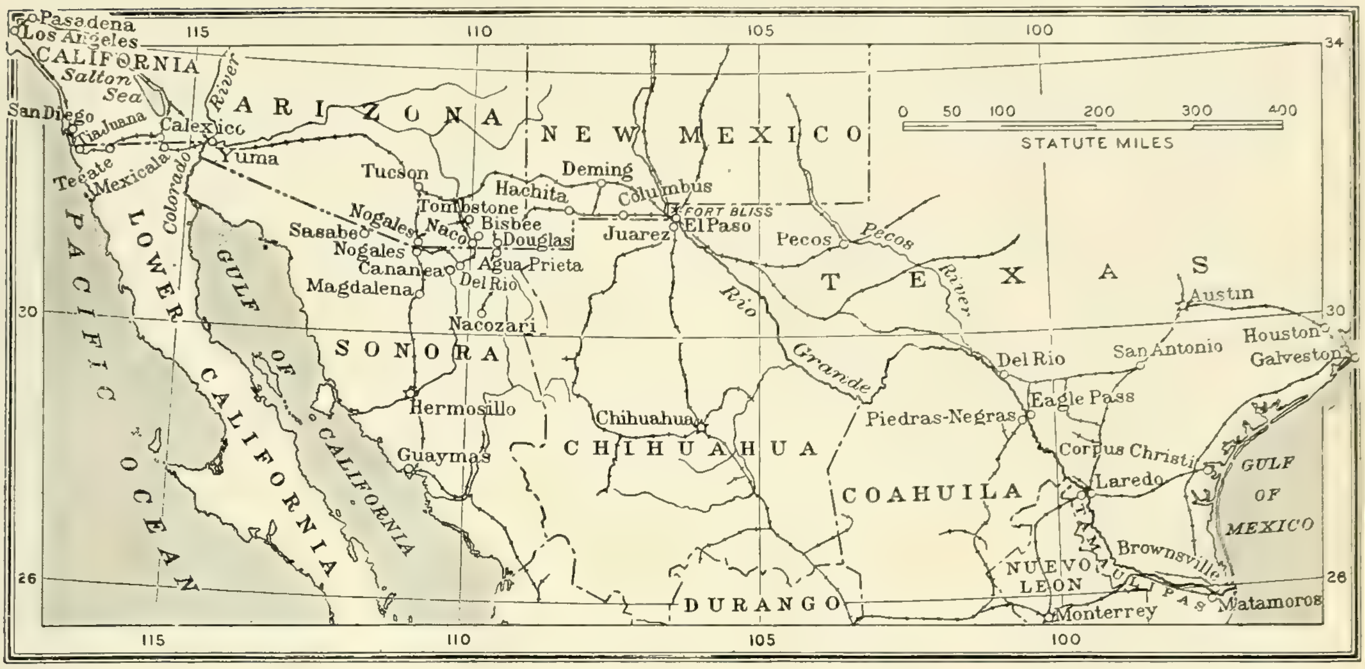
CATTLE SUFFOCATED BY SAND

A tale is told of one poor Arizona cowman who was driving his small herd to the California market. He had just completed the journey across the desert when night overtook his outfit. With it came a sand-storm. The cattle, lying down thirsty and jaded, were actually covered with the drifting sand, being too tired to stir and keep above it.

When dawn came the desert about was covered with mounds and dusty shapes, with here and there a pair of horns protruding. The cattle had suffocated.

Curiously enough, too, steamboats once ran from San Francisco to Arizona! During a period following our Civil War, steamers plied the California coast, came around the peninsula of Lower California into the Gulf, and thence up the Colorado River to Yuma. For many years the main bulk of supplies for the Arizona miners came in this way.

Above Yuma the government's great Laguna Dam project is built, and all about the city fertile farms are developed.



Drawn by A. H. Bumstead

A LONG, CROOKED LINE: THE HISTORIC UNITED STATES-MEXICO BOUNDARY

Some of the wildest and least-known regions of our country are piled up against this border. From the Gulf of Mexico up to El Paso, along the Texas frontier, the Rio Grande forms the boundary; thence to the Pacific coast the line is marked by monuments of stone and iron, so set that one is supposed to be visible from another.

Bird life abounds along the Yuma-to-Calexico section of the boundary, especially along the river delta. Here one may see ducks, geese, gulls, brown eagles, hawks, blue herons, *couriers del camino,* or "road-runners," elf owls, humming-birds, and, among the mountains on the western edge of the Colorado desert, even occasionally that greatest of all American birds, the giant condor. When sitting erect these birds sometimes measure four feet in height.

A prize assortment of reptiles and insects is scattered along this border trail, much discussed by nervous newcomers who "camp out" for the first time.

Rattlers, side-winders, scorpions, centipedes, tarantulas, and the lazy, sluggish Gila monster (*Heloderma suspectum*), to say nothing of the flat, toad-like chuck-walla and a variety of other lizards, live a happy life. Then there are also the banded gekko lizard, the horned toad, and the desert tortoise. (In a lion's den on the Sonora side south of Ajo, I found a number of land tortoise shells, indicating that the lioness had brought these turtles in as food for her young.)

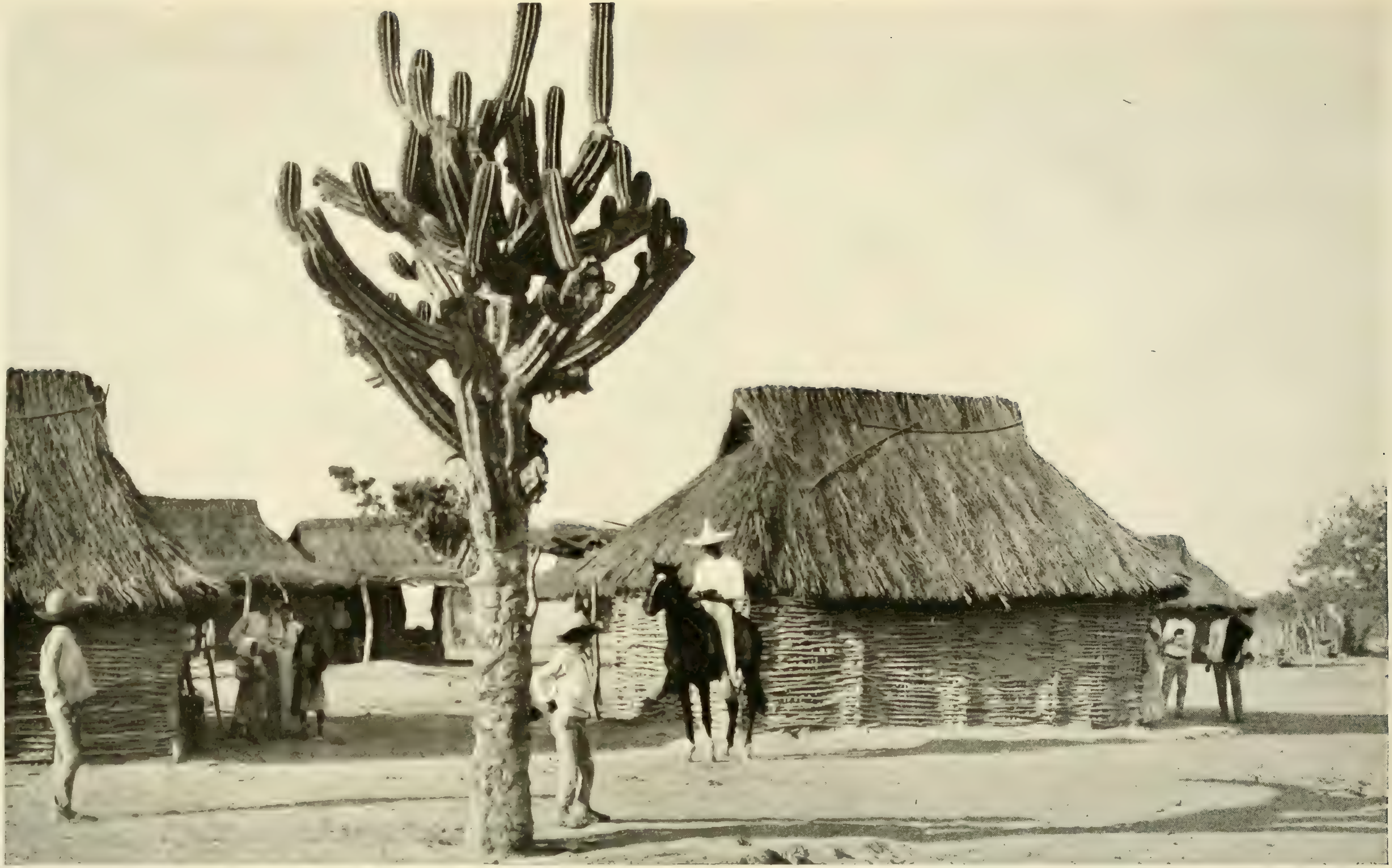
Along the New Mexico and Arizona borders occurs a distinctively interesting bird life. The big Texas "scale quail" has now walked as far west as Sasabe, on the Arizona line. A few years ago it was unknown in these parts.

In his "Distributional List of the Birds of Arizona," Harry S. Swarth gives a total of 362 species and subspecies. Many of these, however, are transients, being winter or summer visitors. In June and July the white-winged Sonora pigeon comes across the border by the tens of thousands. In small, almost dry "tanks," or Arizona ponds, I have shot the crooked bill curlew. Yes, shore-birds in Arizona!

In springtime the desert areas are bright with flowers. New Mexico and Arizona have an indigenous flora almost as large as California. A hundred members of the cactus family are in evidence, affording food to rabbits, gophers, field-rats, birds, beetles, and deer, as well as to cattle and burros. Were it not for their thorns, these plants would probably be utterly destroyed by these troops of hungry animals.

A DESERT LABORATORY ESTABLISHED

To aid farmers in getting better crops, a desert laboratory has been set up near Tucson, where a study of desert plant life is being carried on. Eventually, per-



Photograph by Harry A. Lawton

BENEATH THE INSUFFICIENT SHADE OF A CACTUS BIRD-ROOST

Woodpeckers have dug deep holes for nesting places in this cactus. When the first telegraph lines were run in the southern republic, these birds proved a destructive factor, necessitating the replacement of telegraph poles every year. The cactus in the illustration is one of many varieties which furnish the Mexicans with fruits, sweetmeats, furniture, paper, vinegar, and molasses.

haps, science will help the desert to furnish us with plants good for food and other purposes, even in areas where there is no water for irrigation.

Remnants of the low, filthy Cocopah tribe of Indians still inhabit the mud flats along the delta of the Colorado, catching fish, growing watermelons, or killing rabbits in the *tules* with clubs.

These Indians are most indifferent to whites, ignoring them utterly. Once I was in the vicinity of Volcano Lake when an aviator had been lost. Other planes came seeking the missing man, roaring and swooping over lagoons and mud flats. Cocopah Indians, loitering near, took only a casual glance at their first aëroplane and went indifferently about their simple tasks.

THE YUMA MEDICINE MAN IS LOSING HIS JOB

If you wander off the beaten trail, say down below the railroad bridge over the Colorado at Yuma, you may see a group of naked Yuma Indians sitting in the water up to their necks, their heads covered with mud to keep cool, "looking like a herd of seals," as one writer says.

Up near Banning, in the Coahuila settlement, they still have a medicine man, but he is about out of a job. Sugar-coated pills from the traders' stores and the free medicine the missionaries pass out appeal more and more.

Their houses are built of poles, arrowweed, palm leaves, and willows. Granaries, too, looking like giant bird nests, are woven from willows and arrow-weed in dish-like shape. The basket-weavers, making designs of birds, turtles, and lizards, are dying out.

A few old tattooed Coahuilas are seen; they used to employ the mesquite thorn as a needle and rub the juice of mesquite leaves into the cuts, thus making a greenish tattoo design. They eat the chuckwalla lizard; also mesquite and screwbeans, first pounded fine into flour in a crude wooden mortar.

By far the most industrious, respectable Indians in these parts are the Pimas, of southern Arizona. On their reservation southwest of Tucson these people farm as successfully as the whites; their work animals are fat; their wagons are new or freshly painted, and their harness is in repair. With characteristic Indian reserve, they pretend to know no Spanish or English, but under compelling emergency many of them can converse in both languages.

Of our whole border, the California section is best known to Americans because of denser population, excellent motor trails, and proximity of cities like San Diego, Los Angeles, El Centro, and the below-the-sea border town of Calexico, opposite Mexicali. These Imperial Valley twin towns are really one city, split by the international line and each named by peculiar reverse arrangement of the first syllables of the words Mexico and California.

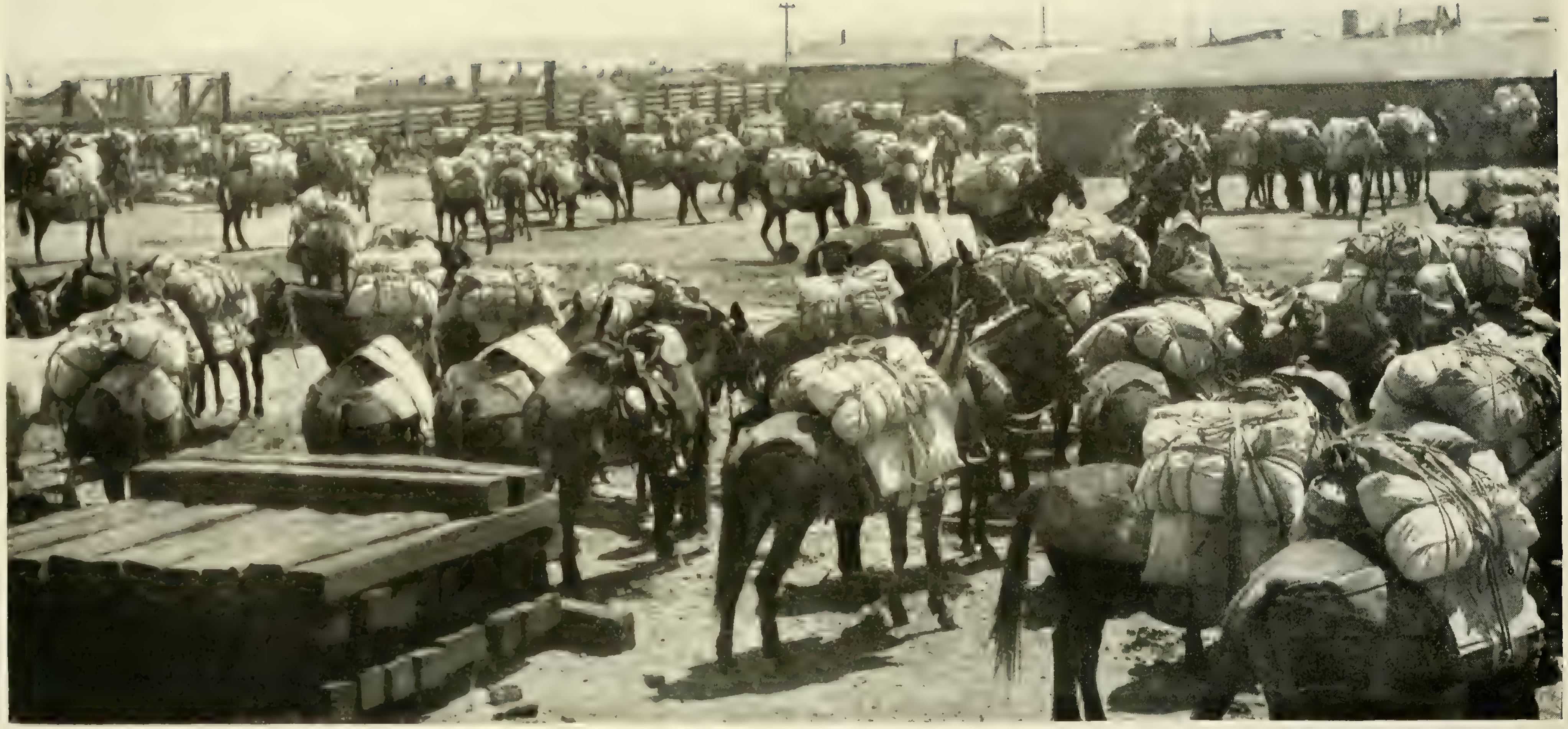
The incredibly fertile Imperial Valley of California sweeps north from Calexico to the Salton Sea, more than 200 feet below sea-level. The oft-told tale of this valley's fight against Colorado River floods and the eventual rise of a thriving community of 60,000 people, with farms worth maybe a hundred millions, is one of the romantic stories of this never-say-quit West.

From Calexico the line runs west past Signal Mountain, up the Jacumba Pass over the Lagunas, past the historic border town of Campo (once the stronghold of hellward gentry, now mostly fled, dead, or reformed), through the towns of Tecate and Tia Juana (famous for races and gambling casinos), and thence to the Pacific.

Motor highways parallel the line, one on each side of it, from Calexico-Mexicali to San Diego and Tia Juana. The road on the Mexican side was built by the Mexican Government as a military highway.

The San Diego and Arizona Railway enters Lower California (Mexico) at Tia Juana, rambles east through rocky canyons and cattle-covered, brushy hills for a few miles, and then reënters California at the town of Tecate by tunneling *under* the international line, thus literally forming an underground trail from Mexico into the United States. From here it runs east through Campo, over the mountains and down into the Imperial Valley.

Another road, the International Railway, enters Lower California at Mexicali, winds east some 60 miles or more



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PACK-ANIMALS LADEN WITH SUPPLIES FOR AMERICAN TROOPS STATIONED ALONG THE MEXICAN BORDER

The problem of transportation of military supplies along the border is especially difficult owing to the arid character of much of the country, where water as well as food has to be shipped by mule trains. There are still many stretches of country where the pack-animal is a more practical means of transportation than the motor-truck.

through a flat, productive cotton country, and then crosses back into California just west of the Colorado River, near Yuma, where it joins the Southern Pacific system.

Such is life along the Mexican border. All kinds of men live here, except poor white men. Few are vastly rich and few are dissatisfied with the country. Immigrants come, conquer the desert, and build comfortable homes. Few ever go back East. Something in the spell of the hazy mountains, the charm of bright skies, and the lure of open ranges holds them here.

And there is no leisure class; everybody *works.* I know one miner worth thirty millions. Last summer he sneaked off alone—dodging mail, telegrams, and directors' meetings—to work with his hands for a month, incognito, on the homestead where he'd lived as a boy.

UNCLE SAM'S WORK ON THE BORDER; WHO DOES IT, AND HOW

Uncle Sam's interests along the border are cared for by three branches of the government—the War, Treasury, and Labor Departments — working through the army, the customs, and the immigration services respectively. The State Department is also represented by consuls at the larger Mexican border towns of Matamoras, Laredo, Juarez, Nogales, and Mexicali; but they are concerned only with affairs on Mexican soil.

Since the Diaz régime passed into history, we have kept troops at all *our* border towns, with cavalry patrols between stations. These forces assist local civilian authorities in preserving order and checking the violation of our neutrality laws. They aid in preventing gun-running and the entry into Mexico of expeditions organized in the United States and bent on crossing the line and taking the field against the government of Mexico. About 20,000 of our men, of all arms, are now scattered along the border from Brownsville to San Diego.

The border is divided into three customs districts—the Texas, the New Mexico - Arizona, and the California—and the collectors are stationed at El Paso, Nogales, and Los Angeles. Deputy collectors are stationed at smaller towns, like Brownsville, Laredo, Columbus, Douglas, Naco, Yuma, Calexico, Tecate, etc.

The collectors have wide discretion. Besides the routine duties of their offices, they keep the Treasury Department informed as to economic conditions on the Mexican side of the line.

Then there are the "line riders," a group of mounted customs inspectors. They are a brave, hardy, and resolute class; they know and watch all the cattle trails and smugglers' passes through the remote border sections. Mostly bow-legged, saddle - born, southwesterners, frequently ex-rangers, these solitary men often spend a whole week in the open, sleeping, perhaps, on the ground in bad weather, on a still hunt for the equally capable smuggler.

Frequently enormously valuable cargoes of opium are landed on the Mexican west coast and finally spirited into the United States. A short time ago as much as eighty thousand dollars' worth of "canned hop" is known to have been landed and stored within 60 miles of the line. The profits in this trade are so huge, the tins of opium are so small and easily carried, that the traffic tempts many a crafty man to have a try at quick, easy money. Small-fry smugglers resort to such amateurish expedients as carrying opium over the line in bicycle tires, "trick" suit-cases, or in the tool-boxes of motor cars; but the daring gangs, who "run hop" on a big scale, usually work in armed bands, at night, taking a chance on dodging the line-rider or "shooting it out" with him.

THE MOST DIFFICULT BORDER TASK

Our immigration inspectors have the most difficult task on the border. They must meet, question, and make a record of every alien man, woman, or child that crosses the border. They collect certain head-taxes, and can refuse admission to certain classes (who may appeal).

Many aliens sneak into the country without inspection, crossing the border at lonely, remote points. Certain orientals are very clever at this, and there are known channels of illicit "underground" traffic. Many Chinese are smuggled in, negro porters on trains coming out of Mexico at one time doing a hustling trade. American smugglers have for years engaged in running "yellow contraband" from the Mexican west coast, using speedy motor-boats and landing their hidden passengers as far north as Oakland. As much as $600 a head is sometimes collected on these smuggled immigrants.

BORDER TURMOIL HAS BROUGHT FORTUNES TO MANY

The ill winds that have wasted Mexico have enriched many residents of American border towns. Hundreds of wealthy Mexican families have removed to the border States, depositing their wealth in our banks and business industries.

Banks in certain Yankee border towns have paid as high as from 80 per cent to 200 per cent dividends. Sensational profits have been made on quick cattle deals and fluctuations in Mexican exchange.

Much money was made and lost, too, in the time of the *"billumbiques,"* or fiat money, issued by various factions during the early years of the Mexican revolution. Some of this paper money, originally supposed to be worth two for one (two pesos to one American dollar), finally fell in price until it was quoted at 50 for 1, 100 for 1, and even 1,000 for 1. A tale is told of a poor long-haired Indian at Agua Prieta who went crazy in a barber-shop trying to figure out how many *billumbiques* it would cost him to pay for a hair cut!

Mexican Government purchasing agents come in a constant stream to these frontier towns to buy supplies. They bring suit-cases of money and buy by the carload—buy not only animals, uniforms, provisions, motors, vehicles, harness, guns, ammunition, etc., but they also buy school supplies, machinery, tools, and furniture for use in various government-owned institutions.

In towns like Calexico, El Paso, and Nogales, certain shrewd Americans (mostly born in Poland and Syria), who were mere peddlers or "shoe-string" merchants ten years ago, now own handsome homes, send their children to fashionable schools in the East, and motor out to the California beaches each summer with their almost incredible, but highly delighted, wives.

Border brokers make cash advances to speculative traders, who go into Mexico and buy herds of cattle, cargoes of garbanzos and tomatoes, hides and ores. These imports become ready money, once they reach the American side of the line, and the handsome margin of profit stays in the border towns. No part of the United States has seen more prosperity in the last decade than some of these small border ports of entry.

Commission agents, customs brokers, import and export houses, and mining and plantation machinery agents thrive here. The regions of Arizona and New Mexico that crowd against the line are not in themselves particularly rich except in minerals; yet some firms here handle tremendous volumes of goods each year, most of which is sold in Mexico.

Nogales and Douglas have trebled their populations in the past decade, and thousands of Mexicans have moved across the line, increasing the already high percentage of Mexicans residing in our border States.

TO THE MEMBERS OF THE NATIONAL GEOGRAPHIC SOCIETY

THE BOARD OF TRUSTEES of the National Geographic Society calls attention to the increase in dues for all members elected after July 1, 1920. This increase has become necessary owing to unprecedented increases in everything pertaining to publication since January 1st: for example, of 50 per cent in the cost of printing, and of 88 per cent in the cost of the special quality of paper upon which THE GEOGRAPHIC is printed, and which cannot be cheapened without materially impairing the clarity and beauty of illustrations which have made your magazine unique in periodical literature. As noted on the Recommendation for Membership blank, the annual membership dues in the United States are now $3.00; annual membership abroad, $4.00; Canada, $3.50; life membership, $50.00.

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ANTIOCH THE GLORIOUS

BY WILLIAM H. HALL

AUTHOR OF "UNDER THE HEEL OF THE TURK"

IF THE land of the Garden of Eden is half so fertile and well watered today as it was in the time of its first occupants, its possession is well worth the hardships of a long and difficult military campaign. When the British Army entered the city of Bagdad, in the spring of 1917, Eden was won and made a part of the British Empire.

For the production of cotton, corn, and dates, the Valley of Mesopotamia is unsurpassed, and, according to all calculations, it is still capable of supporting a population of fifty millions, whose main occupation would be the cultivation of the soil and the preparation of the abundant products of this most wonderfully fertile region for the markets of the world. Some of the products of this valley go out by way of the Persian Gulf and are consumed in India, but by far the greater portion will eventually go westward, to supply the looms of Europe or to feed and clothe her industrial millions.

FORTUNE'S WHEEL TURNS TO ANTIOCH ONCE MORE

The natural outlet for all this wealth is not the long haul over the Bagdad Railway to Smyrna and Constantinople, some 1,500 miles, but the short haul, past the city of Aleppo, to some harbor of the Mediterranean coast—Alexandretta, where the great Macedonian brought final defeat to the Persian hordes, or to the ancient harbor of Seleucia, seaport of the city of Antioch.

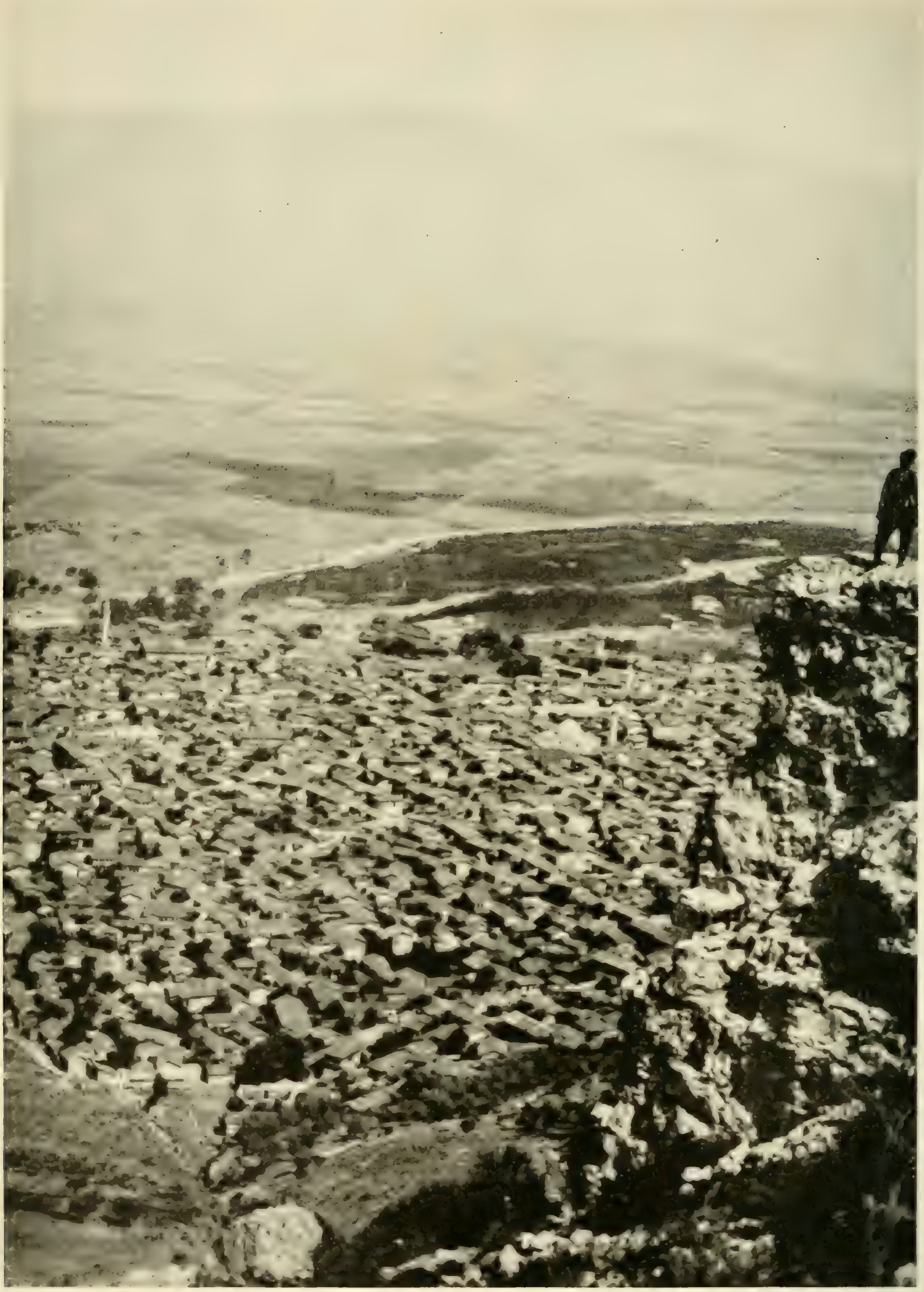
For a thousand years Antioch was the capital city that ruled the industries, trade, and commerce of the Euphrates and Tigris valleys. And now the turn of Fortune's wheel is again about to direct the stream of trade past her doors.

While this is being written a large force of Arab and Turkish Nationalists is lying behind the ancient walls of Justinian that surround the modern city of Antioch. Within the city a little force of some 500 French soldiers is holding back the besiegers.

In the days of its glory the people of Antioch were gathered in the great theater listening to a famous actress while the Persians were besieging the city. They trusted to their splendid fortifications and feared naught. At a point in the play the actress paused, while, with arm outstretched toward the mountain above the city, she exclaimed, "Behold, the Persians are come!" There was great applause, the audience thinking it a fine bit of stage play; but as a shower of arrows darkened the sky, the people turned to behold that instead of play it was reality. The enemy was within the walls, and plunder and destruction had already begun.

THE CITY OF BEN HUR'S TRIUMPH

When we read the story of Ben Hur and follow him about the streets of that splendid city, or enter with him the palaces of the rich, or see Messala gaming with his friends in the magnificent palace



Photograph by American Colony, Jerusalem

A VIEW OF MODERN ANTIOCH FROM MOUNT SILPIUS

In the middle background winds the silver thread of the Orontes River. Beyond stretch the fertile plains for many miles toward the Amanus range of mountains.

on the island in the Orontes, or watch with breathless interest as the hero guides the four fleet Arab steeds through the mazes of the chariot race, Antioch seems a fabled city of ancient times, living in story only.

It is hard to come to reality and think of American Fords and Italian Fiats rushing along the roads where Ben Hur guided his matchless Arab steeds, or of great motor lorries trundling across the plain where the long trains of camels brought their caravans of riches from the East. The hippodrome where Ben Hur, the Jew, contested with Messala, the Roman, is in ruins, but the East and the West are just as surely in conflict today.

The purpose of this story is to place again before the reader a city that has been the capital of the Nearer East, and that in the near future may again become a controlling factor in the trade of the Levant. It is the story of *Antioch the Glorious.*

SELEUCUS VISITS A SHRINE ON MOUNT CASIUS

Fleeing for his life across the Syrian Desert, with scarcely fifty horsemen at his back, was not an auspicious opening for a young man ambitious to found a kingdom of his own. But such is the picture of Seleucus Nicator, favorite of Alexander the Great, commander of the Macedonian Horse, Governor of Babylon, and finally head of the House of Seleucus, which for nearly three hundred years ruled an empire stretching at times from India to the Ægean Sea.

The break up of Alexander's empire brought two decades of strife, resulting in the emergence of four great divisions—Egypt at the south, Macedonia and Greece to the west, Asia Minor in the north, and Syria, with Mesopotamia, in the center and east. Victory at the Battle of Ipsus, in 301 B. C., gave Seleucus control over this Syrian kingdom.

Almost the first act of Seleucus after his victory was to proceed to a sacred shrine on the summit of Mount Casius, and there offer sacrifices of thanksgiving to Zeus.

Of all the splendid mountains in Syria, none is more beautiful, more dignified, more mysterious, than Mount Casius of the ancients, Jebal Akra of the Arabs, Bald Mountain as it would be in simple English. From whatever side it is viewed, it is a regular cone, 6,000 feet in height, so steep that it can be ascended only from the eastern side, and then with difficulty. From its summit to the sea on the west and the Orontes River on the north, the sides are so unbroken by foothills and valleys that it seems as if a boulder started at the top would roll without hindrance to the sea.

To the mariner steering for the harbor of Seleucia, and from the plains to the east, even from the city of Aleppo, 70 miles away, the splendid conical peak is a guiding landmark.

It is no wonder, then, that this mountain was looked upon as the home of the gods. Often gossamer white clouds veil its summit with the mystery befitting an abode of those divine. Again, the dark storm-clouds gather, the thunders roll, and Jupiter launches his thunderbolts of anger from his throne on high. When the lights and shadows play over the rugged slopes and the sun glows warm on the mountain side, the gods are at peace and all the world is gay.

A FLIGHT OF BIRDS DETERMINED THE LOCATION OF SELEUCIA

Following his religious devotions on Mount Casius, the flight of a flock of birds guided the victorious Seleucus to the founding of a Mediterranean seaport for his new kingdom. This city of Seleucia became large and flourishing, with a harbor protected by artificial breakwaters and a large inclosed basin, where the Greek and Roman galleys could load and unload directly at the wharves.

From this harbor, in later years, the Apostles Barnabas and Saul sailed away to bear their gospel message to the Roman world.

The ancient breakwaters, the rock citadel guarding the harbor entrance, and the outlines of the inner basin can still be traced. This same site was surveyed recently by an American syndicate as a possible location for a port and the terminus of a railway from Asia Minor to the Mediterranean, tapping the rich mineral regions of the interior.

Photograph by Maynard Owen Williams

THE WATERS OF DAPHNE

High banks of moss and ferns, with the streams of water spread out in lace-like falls, give to the place a deliciously cool and refreshing aspect. It was within sound of these waters that the ancients were accustomed to celebrate the Feast of Fertility, which eventually degenerated into such immoral revels that Rome herself was scandalized.

It was quite the fashion in ancient days for a conqueror to commemorate his victories by the building of cities. In this particular Seleucus seems to have excelled. He is said to have founded, in all, nine cities named for himself, Seleucia; sixteen named for his father's family, Antioch; six for his mother, Laodicea; and three named Apamea for his Persian princess, given him as bride by Alexander.

Four of these cities were in northern Syria and became the center of the great Seleucid Empire. Antioch of Syria, beside the Orontes River, twenty miles from the sea, was the capital; Seleucia, at the foot of a rocky headland, a short distance north of the Orontes, was Antioch's seaport; Laodicea, south of Mount Casius, a flourishing coast city, and for a time replacing Antioch itself as the seat of the Roman Government; and Apamea, on the Orontes near Hama, was the great military training camp.

At Apamea, Seleucus placed the 500 elephants he had brought from India, and here, at one time, he assembled 30,000 mares and 300 blooded stallions.

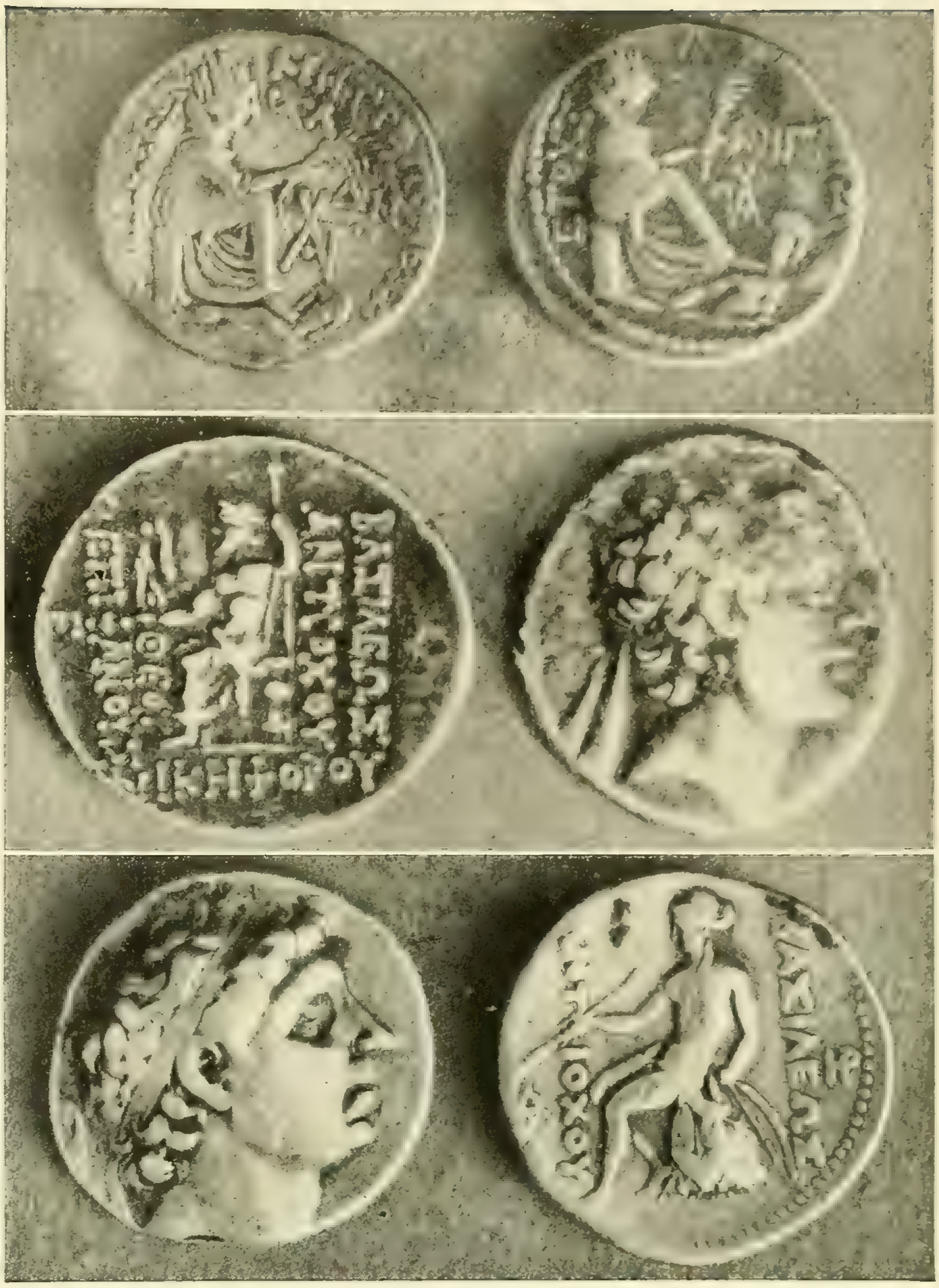
But by far the most famous of all these cities was Syrian Antioch, the capital, which came to be spoken of as "Antioch the Glorious," "The Eye of the Orient," "The Gate of the East." And through this gate there flowed eastward the great tide of Greek art and civilization and Roman law.

According to the Roman reformer and satirist, Juvenal, from Antioch also "the waters of the Orontes overflowed into the Tiber," and thence came superstitions and indulgences and excesses that caused the corruption of Rome. This may be true, but also it was "in Antioch that the disciples were first called Christians."

AN EAGLE DIRECTED SELEUCUS TO THE SITE OF ANTIOCH

While engaged in offering sacrifices in the city of Antigonia, the capital of

Seleucus' conquered rival, an eagle swooped down, caught a piece of meat from the altar, and flew away. The flight of the eagle was watched, and it was seen to settle upon Mount Silpius, at the southern edge of the plain, beside the Orontes. This was interpreted as an omen that the gods wished Seleucus to found his capital on the site indicated by the eagle's flight.


Photograph from William H. Hall

IN THE COINS OF ANCIENT ANTIOCH IS RECORDED MUCH OF THE PROUD CITY'S LEGENDARY HISTORY

At the top is shown *Fortuna,* symbolic figure of the city, seated on the crags of Mount Silpius, with the Orontes River, represented as a boy, swimming at her feet. In the middle is a coin of the time of Antiochus Epiphanes, who persecuted the Jews and against whom the Maccabees rose. It shows the figure of Zeus, and the inscription claims divine honors for Epiphanes. At the bottom is one of the coins of Antiochus the Great, showing the head of Antiochus on the obverse and on the reverse side Apollo, patron god of Antioch, aiming an arrow into the ground (see text, page 99).

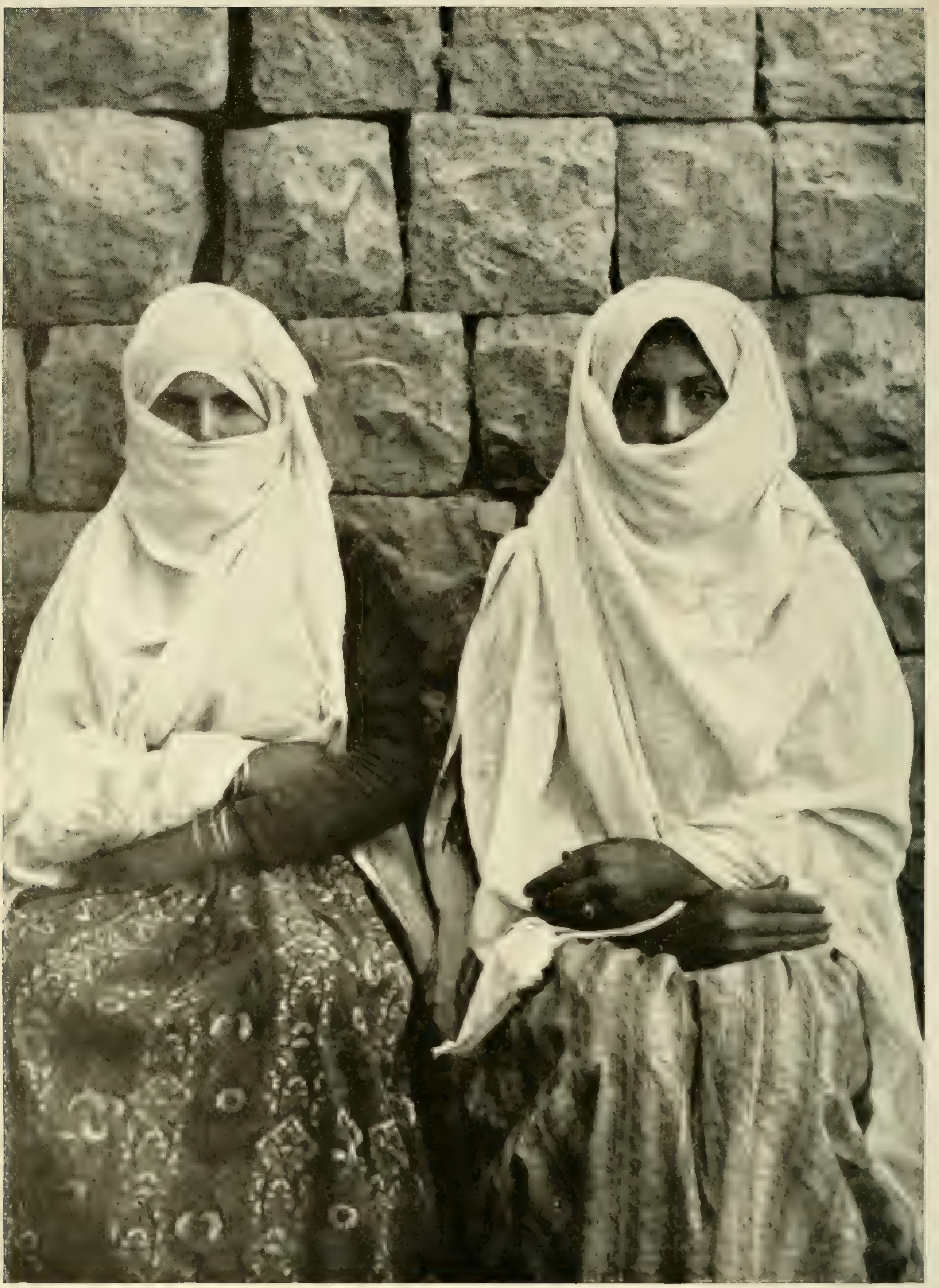
Accordingly, Seleucus destroyed Antigonia and removed city and citizens across the plain to the new location. It was undoubtedly a great asset to have his judgment as to a suitable and strategic site confirmed by signs and omens.

And so Seleucus was guided to build his capital city on the rising ground between the Orontes River and the high slopes of Silpius. This plateau is some two miles in width and extends a long distance east and west between the river and the mountains. To the north of the river a wide and fertile plain stretches away for miles to the range of Amanus; the Lake of Antioch, surrounded by the greenest of plains, lies blue in the distance.

This was a strategic point for the building of a capital city. The immediate environs furnished ample support in grain and cattle for the city's needs. Both by river and easy road there was access to the sea. Almost within sight from the citadel walls the pass of the "Syrian Gates" gave access to the north and west.

The whole plain of the Mesopotamian Valley lay open to the east, and southward along the seacoast and the plain between the Lebanon and Anti-Lebanon ranges opened the land of Syria and the way to Egypt.

From three directions, therefore, the



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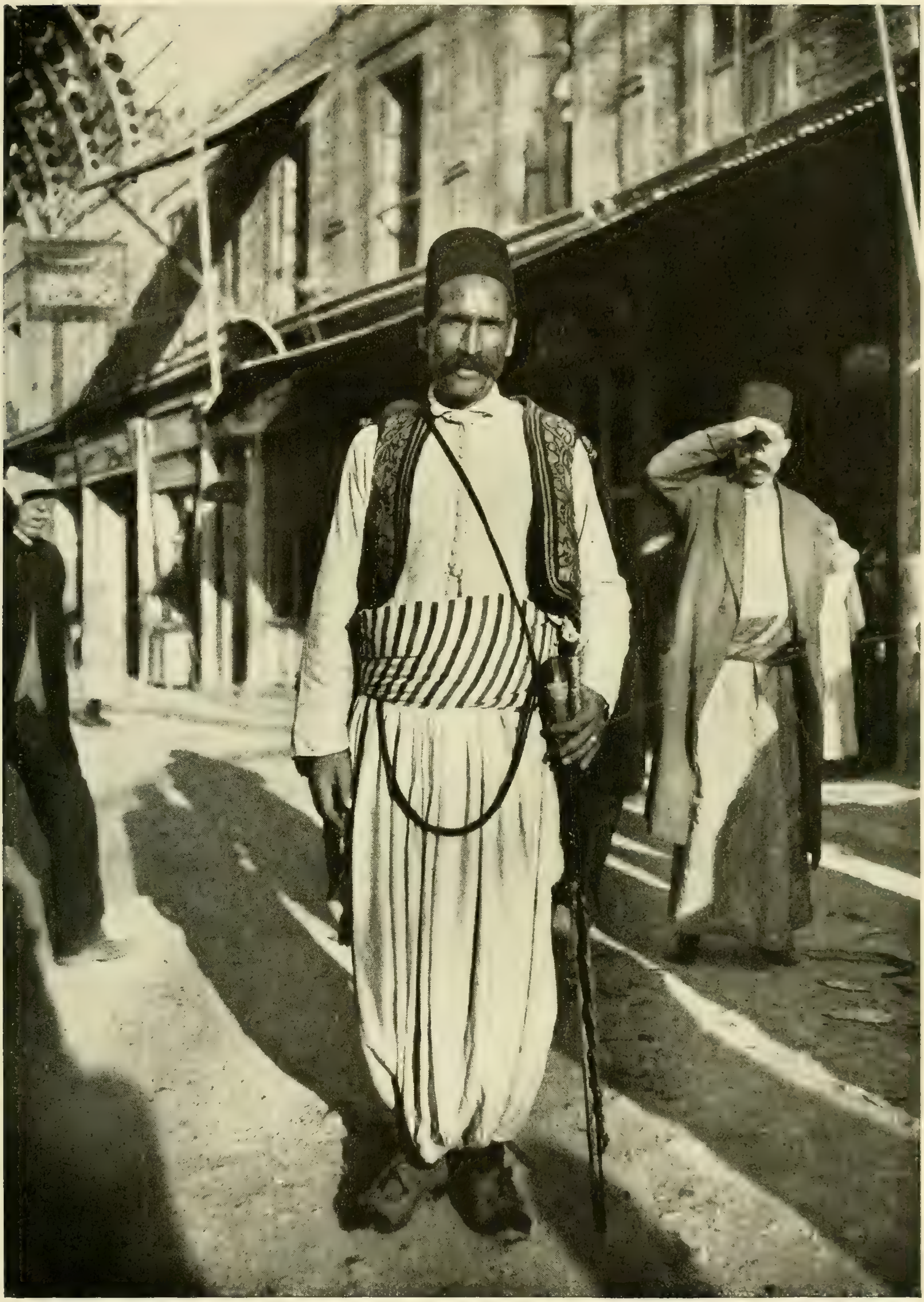
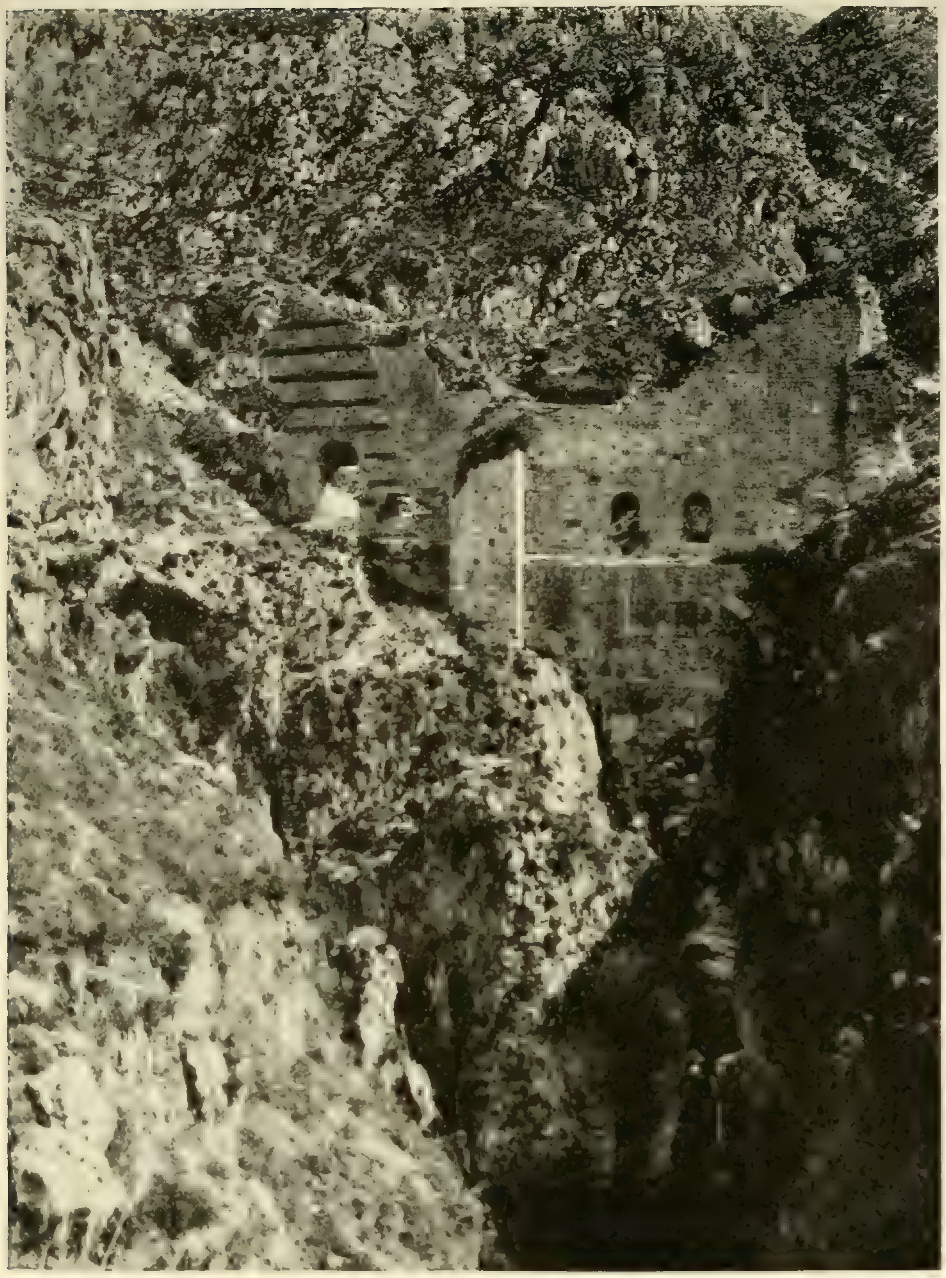
YOUNG SYRIAN WOMEN OF THE TYPE THE TRAVELER MEETS IN ANTIOCH TODAY



Photograph by Charles E. Beury

A NATIVE COURIER FOR AN AMERICAN CONSUL IN SYRIA



Photograph by Maynard Owen Williams

BAB-EL-HADID, ONE OF THE LESSER GATES OF ANTIOCH

Down the side of this valley the city wall descends almost perpendicularly.

whole empire centered on this point. It was the natural meeting place, the crossroads of trade and government and military expeditions. Rome recognized this and made Antioch her seat of government for the Orient, and there she fitted out all of her armies for the Eastern campaigns.

ANTIOCH REPRESENTED BY "FORTUNE"

Modern trade has borne out the judgment of the ancients by maintaining the commercial importance of the near-by city of Aleppo.

Thus Seleucus chose the place for his capital city whence he could easily strike north, south, or east, and so located that he prevented the union of his rivals. His was the power of "the Central Empire."

On many of the coins of Antioch is stamped an allegorical design representing the city. This design is a crowned maiden seated upon the rocks, with a boy, in the attitude of swimming, at her feet. This is the city of Antioch, on the rocky mountain of Silpius, with the river Orontes at its feet. The figure of a maiden was the city's "Fortune," and this statue occupied one of the most important places in the decoration of the capital.

A CITY OF FOUR PARTS

About fifteen miles to the east of Antioch the Orontes River makes a sharp bend to the west. After flowing across the broad, fertile plain, it is joined by the Black River, the outlet of the Lake of Antioch. The union of these two streams and the numerous smaller tributaries from the neighboring mountains makes a fine, broad river that flows with a rapid current almost straight westward to the sea.

Just north of Mount Silpius there is a broad bend inclosing an island. It is possible that the island was made originally by a canal cut across the bend. Seleucus built his city on the rising ground immediately south of the river.

Mention is made by the geographer Strabo that the city was of four parts—the original city of Seleucus; the city on the island built by Antiochus I; the portion between the first city and the mountain, built by Antiochus III, and the most beautiful portion to the east, built by Antiochus Epiphanes. During the Seleucid era the city covered a space four miles long by two miles wide. In addition, there were populous suburbs, such as Heraclea and Daphne.

The general plan adopted in building was one much admired at that time. There was one long main street, in general parallel with the river. All other streets were either parallel with this main street or at right angles to it. This "checker-board" plan was typical of Greek cities.

Bridges spanned the river both to the island and to the northern bank. The points of the mountain were crowned with temples, shrines, and a citadel.

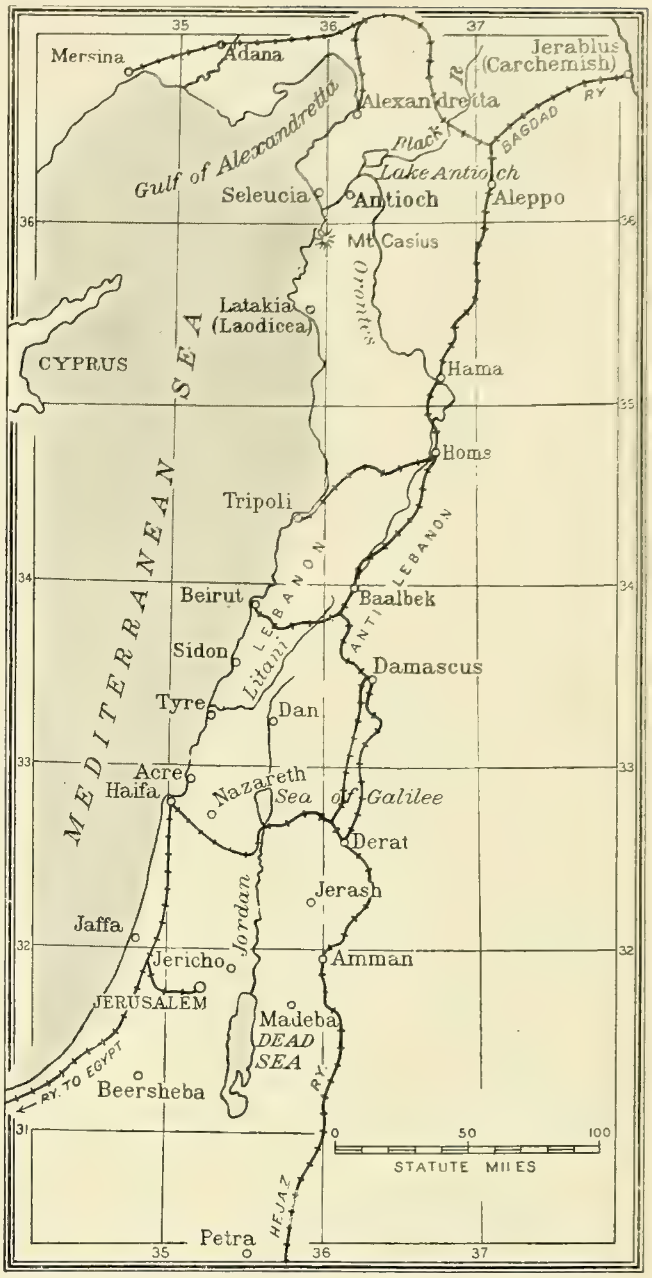
The whole city was surrounded by a great wall which is said to have been seventy to eighty feet high, to have been protected by 360 towers, and to have been so broad that a team of four horses could drive abreast on the top of it.

It is thought by some that this plan of Antioch, especially the great colonnaded street, was copied in the planning of other cities, such as Palmyra and Jerash. Indeed, Müller in his "Antiquities of Antioch" contends that Antioch was an original product of Greek art, that other cities were patterned after it, and that later decorations of Antioch were merely copies or restorations of the earlier Greek beauties by the less original Roman conquerors.

A STREET OF MAGNIFICENT SPLENDOR

The most magnificent splendor of Antioch was its great street. This ran straight through the city from east to west. At each end there was an impressive gate. The eastern gate was later known as the "Gate of St. Paul." It was still standing forty years ago, almost complete; but now even the foundations have been removed for buildings in the modern city. The western, or Daphnean Gate, was called the "Gate of the Cherubim," for over this gate Titus placed the golden cherubim he had taken from the temple in Jerusalem.

These two gates were about four miles apart. Between them was a grand boulevard.



Drawn by A. H. Bumstead

A MAP OF THE EASTERN SHORES OF THE MEDITERRANEAN

Legendary history tells us that the flight of an eagle indicated to Seleucus Nicator the site for Antioch, which became the brilliant capital of the Seleucid Empire. It enjoys an unrivaled situation on the south bank of the Orontes River, with a spur from Mount Casius at its back and fertile plains spreading northward beyond the river in the direction of Alexandretta.

One who has visited the ruins of Jerash, east of the Jordan, or Palmyra, or the beautiful white marble street of Ephesus, can form some conception of what this glory of Antioch must have been.

On each side of the street was a double row of columns. The outside aisle in each case was roofed over, furnishing a shady

Photograph by Maynard Owen Williams

SUNSET IN THE BAY OF ALEXANDRETTA

The natural outlet for the products of the wonderfully fertile valleys of the Tigris and the Euphrates is not the long haul over the Bagdad Railway to Smyrna and Constantinople, but the short haul, past the city of Aleppo, to some harbor on the Mediterranean coast—to Alexandretta, 30 miles north of Antioch, or to Antioch's resuscitated seaport, ancient Seleucia.

walk in summer and a dry and sheltered way during the winter storms. Between the inner rows of columns was a broad highway for chariots and horsemen. It has been estimated that if these columns were the same distance from each other as those still standing in the street of Palmyra, there would have been 6,800 in all.

This street was lined with magnificent public buildings, temples, shrines, and palaces of the nobles.

Imagine, then, this grand highway, with its long vista of granite, marble, and porphyry columns, its covered promenade rich in statues and carvings, its marble pavements, its beautiful Grecian architecture, and, terminating all, the golden decorations of the western gate blazing in the light of the setting sun.

A STREET OF GAY THRONGS AND BRILLIANT PROCESSIONS

Fill this street with its busy throngs of men and women: Here a religious procession, the priests clad in the many-colored vestments of their office, the animal for sacrifice decked with wreaths and garlands of flowers, and the company of singers chanting the solemn processional; there a gay throng of revelers in wedding procession, escorting the bridal pair to the beautiful Nymphæum, near the river side, a great circular, dome-covered building, rich in columns and statues, and with cool, plashing fountains—an institution with special accommodations for the celebration of nuptials; or, again, down the great street there might come some victorious general, returning in triumph from his foreign campaign—slaves, soldiers, sovereigns, all following his triumphal car. Thus came the great Cæsar himself, while the city resounded again and again to cries of loyalty and adoration.

Up and down this street have passed not only the stately religious procession, the happy bridal party, the triumphant conqueror, and the magnificent array of the glorious king, but also there has rushed the mob, wild with fury and drunk with the passion of plunder and massacre. O great street of Antioch, what scenes of splendor, pleasure, and of horror have been enacted on those marble pavements from gate to gate, and have woven their web in and out among that forest of columns!

Many other streets crossed the great street, always at right angles, and at every intersection arches were erected, called "tetrapyli."

About the middle of the city another broad street, also colonnaded, extended from the river to the mountain. In this street, near the river, was located the Nymphæum, mentioned previously, and where it crossed the great street was created the "Omphalos."

This altar was the center of the city and was devised in imitation of that at Delphi, which had been erected by the ancient Greeks, supposing Delphi to be the center of the world. Here was a sitting statue of Apollo, the patron god of the Seleucids.

Outside the eastern gate for a distance of two miles King Herod of the Jews built a continuation of the great street.

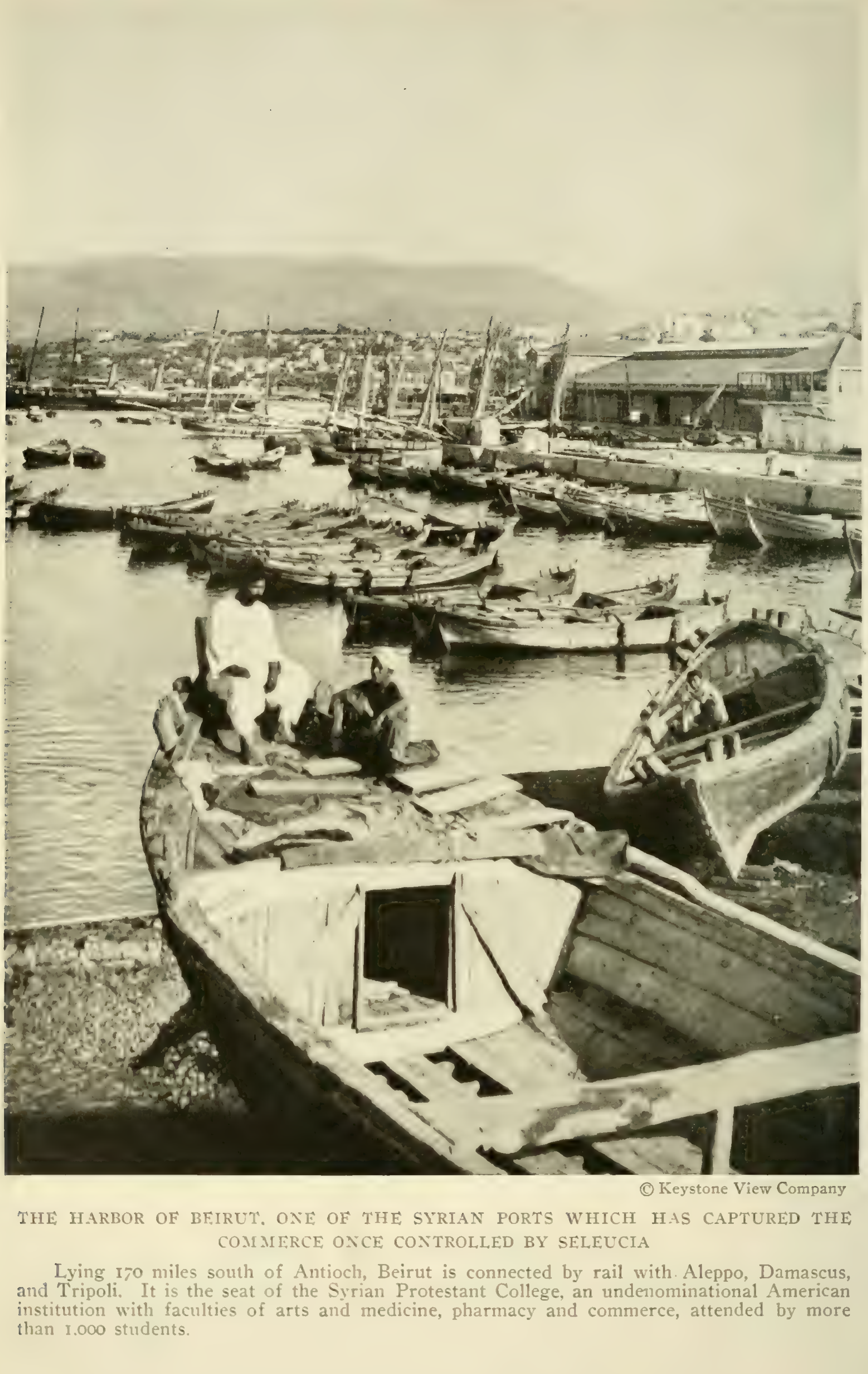
Herod's street also had rows of columns and was paved with marble. It traversed the portion of the city known as Herod's Suburb.

From the western or Daphne Gate, a great highway extended for some six or eight miles through the suburb of Heraclea to the noted Grove of Daphne. This road skirted the low foothills. At frequent intervals there were fountains, and on both sides were the magnificent villas of the nobility of Antioch.

ANTIOCH HAD ITS GAY WHITE WAY

"At night the streets were brilliantly illumined by lights rivaling the light of day. This was one of the splendors of the city. The Antiochæans turned night into day, not looking for security, but pleasure. Night became a part of day, and the most beautiful part. Especially were the baths and the approaches thereto illumined." From this description one might imagine himself reading of our twentieth century Gay White Way, with its myriad electric lights.

An abundance of splendid water contributed to the joy and pleasures of the Seleucid capital. Not only was there the river Orontes, but great aqueducts brought a copious supply of clear, pure water from the mountains. Two large aqueducts entered the city from the east



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THE HARBOR OF BEIRUT, ONE OF THE SYRIAN PORTS WHICH HAS CAPTURED THE COMMERCE ONCE CONTROLLED BY SELEUCIA

Lying 170 miles south of Antioch, Beirut is connected by rail with Aleppo, Damascus, and Tripoli. It is the seat of the Syrian Protestant College, an undenominational American institution with faculties of arts and medicine, pharmacy and commerce, attended by more than 1,000 students.

and a greater number from the west, bringing the waters of Daphne to the gardens, fountains, and baths of the city.

Antioch was everywhere beautified with statues in marble and bronze. It was the delight of the great who visited the place to erect a statue, to dedicate a shrine, to build an aqueduct, or present a bath. It is said that there were so many public buildings in the city that the poorer people had to live outside the walls or in one of the suburbs.

The size of the city was 30 by 36 stadia, equal to 3½ by 4 miles. St. Chrysostom gives the population as 200,000, which number did not include boys, girls, or slaves. It is, therefore, safe to say that Antioch, with its immediate suburbs, was a city of half a million people.

"THE MOST DELIGHTFUL PLACE OF THE WHOLE EARTH"

Passing through the city gate at the western end of the great street, one follows the road through the suburb of Heraclea. This road follows the turnings of the foothills. High on the left rise the rugged mountains. Sloping away on the right are green fields, beyond which winds the Orontes. This road was once lined with beautiful gardens surrounding splendid villas, and kept fresh and flowering by abundant streams of water from the neighboring hills. At frequent intervals there were bubbling fountains, inviting the thirsty to refresh themselves, and wayside shrines, where the weary could rest and the devout could pay their devotions.

Heraclea itself must have been a beautiful suburb, located on rising ground, well supplied with water, and possessing a splendid view of the river valley and the surrounding mountains. One did not stop at Heraclea long, however, but hastened on through rich gardens, past fine houses and villas, to the wonderful Valley of Daphne.

This valley is about six miles from Antioch. Ancient writers, praising its beauty, called it "the most delightful place of the whole earth," "the pleasantest corner in the earth," and "the garden of Venus and the graces." A narrow valley, descending between two high, rocky mountains, broadens out into a fine plateau, at a point where beautiful streams of clear, cold water break forth from the rocks. These fall in a series of cascades into the gorge below, where they unite into a torrent rushing away to the Orontes.

In the floor of this valley are numerous little wooded islands, with green and grassy shores. High banks of moss and ferns, with the streams of water spread out in lace-like falls, give to the place a deliciously cool and refreshing aspect.

In former days the mountain sides were covered with forests, the plateau was adorned with groves of cypress, and the narrow valley was green with clumps of laurel.

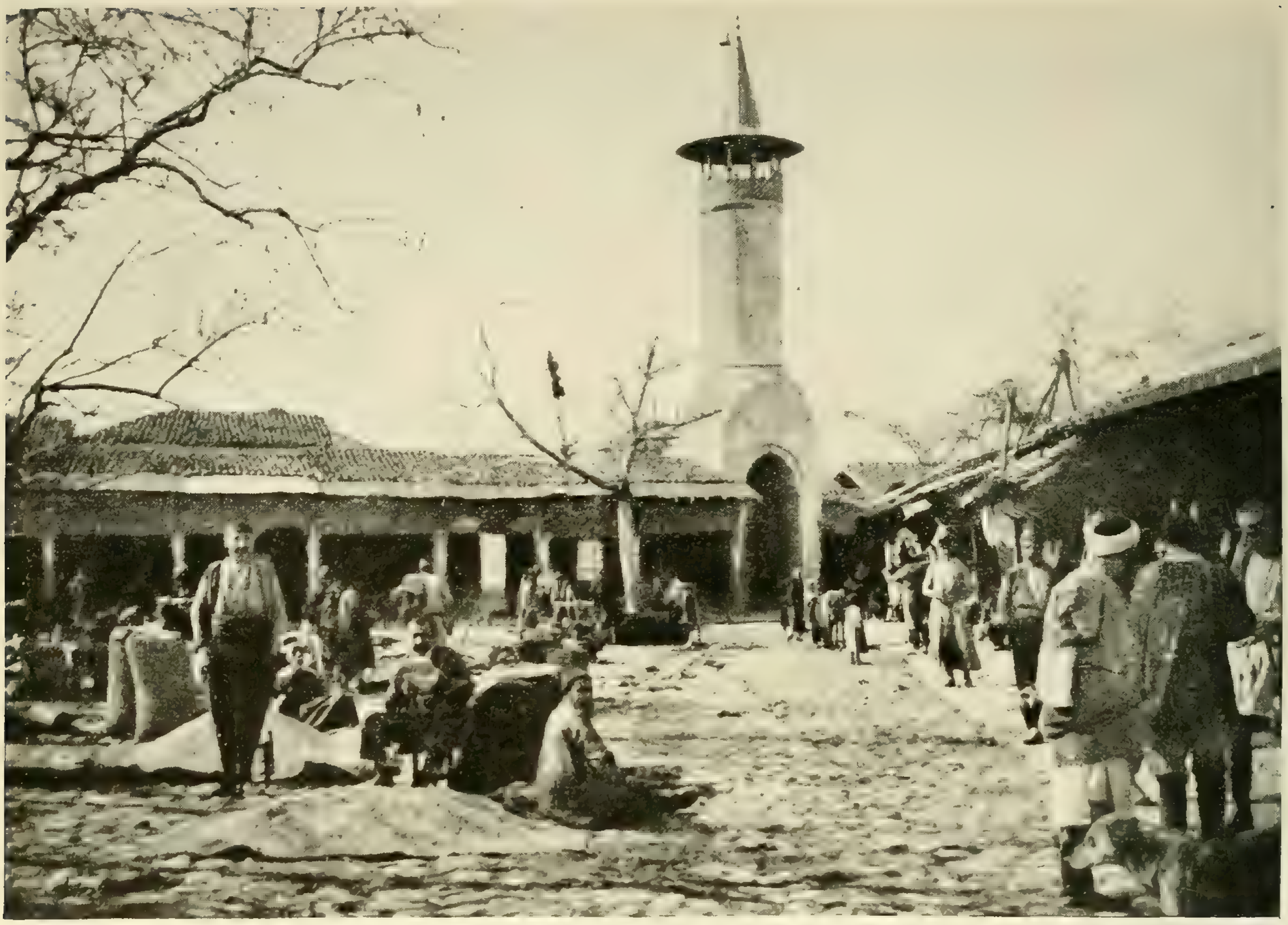
The Valley of Daphne is beautiful today in its abundance of water and its wild tangle of moss and fern and overrunning vines. But "the pleasantest corner in the earth" it must have been when it was all in the order of a great wild garden, graced with beautiful temples, peopled with nymphs and dryads, and veiled in the poetic mystery of Greek religious fancy.

There has been some dispute as to the location of Daphne; but to one who has visited the place there can be no doubt. The beauties of the valley itself are unrivaled, and the ruins on every hand would seem to mark the place beyond question.

At the very fountain head are the ruins of some great building, perhaps the temple of Apollo. From this point a number of aqueducts lead away in the direction of Antioch.

The whole plateau is strewn with broken pieces of marble richly carved; granite columns are everywhere, projecting from the fields or built into the garden walls. The peasants' houses are adorned with marble scrolls, ancient keystones, or broken bits of decoration from ancient palaces. One cannot but speculate as to what lies buried a few feet under the soil. But the heathen temples were destroyed with fire in Christian times; and terrible earthquakes long ago reduced the magnificent buildings to heaps of ruins.

What a show-place Daphne must have been in its prime! Apollo was the brother of Diana, the goddess of the chase, who

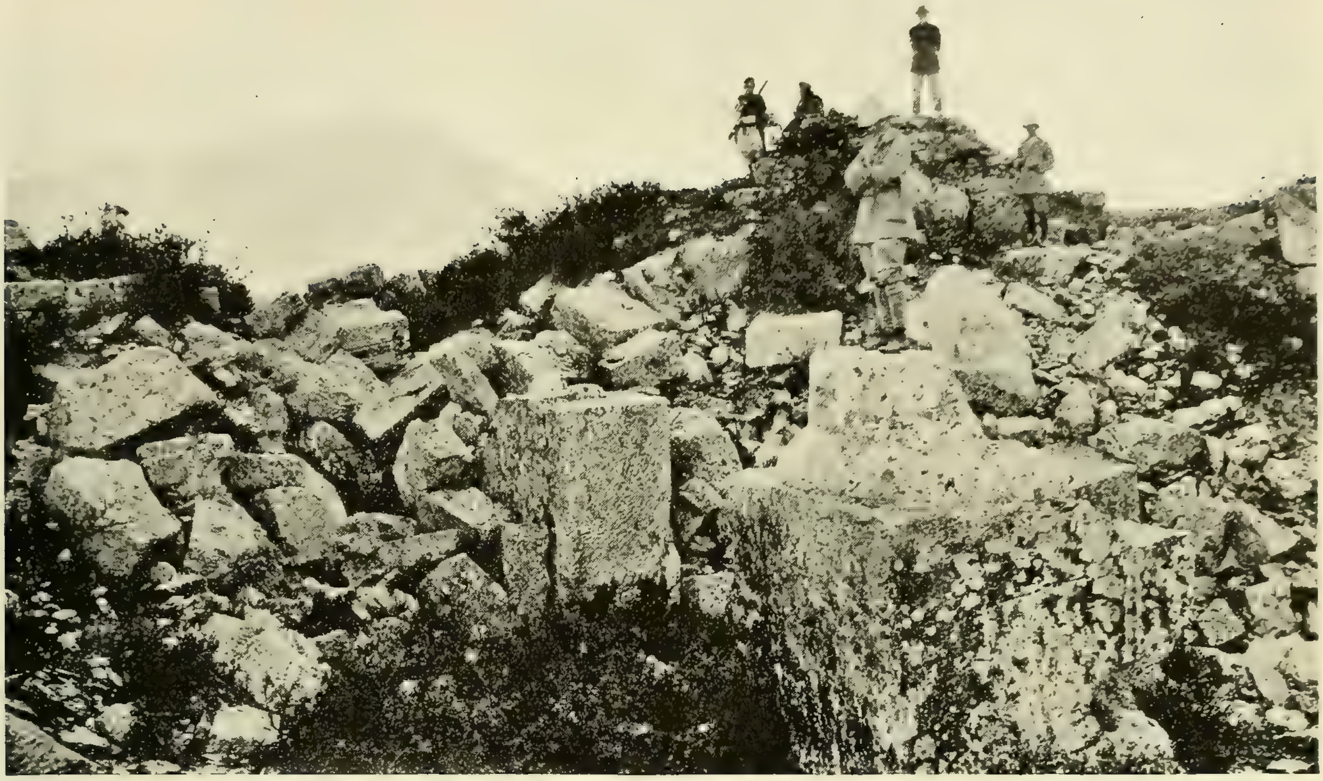


THE MARKET-PLACE OF MODERN ANTIOCH

Although it played a major rôle in the early history of Christianity and it was here that "the disciples were first called Christians," Mohammedanism is now the dominant faith of this region, as the minaret overlooking the market suggests.

Photographs by Stephen Van R. Trowbridge

HILLSIDES NEAR ANTIOCH TERRACED FOR THE CULTIVATION OF MULBERRY TREES



RUINS OF A CHURCH ON "JABEL SIMAN," PROBABLY THE BIRTHPLACE OF THE ORDER OF PILLAR SAINTS

Note the outline of Mount Casius in the background.

Photographs by Maynard Owen Williams

THE HARBOR OF SELEUCIA, SHOWING THE ANCIENT BREAKWATER, NOW BURIED IN SAND

From this harbor Barnabas and Saul set sail on their missionary journeys. The city was of great importance in the struggle between the Seleucids and the Ptolemies. It stood on the rocks overlooking the sea, four miles north of the mouth of the Orontes.

Photographs by American Colony, Jerusalem

RUINS OF THE CHURCH OF ST. SIMEON STYLITES, NEAR ANTIOCH

Simeon was the first and most famous of a group of religious zealots known as Pillar-hermits. He built a pillar six feet high and began to live upon it. From time to time he built new pillars, each succeeding column higher than the previous one, until finally he was residing sixty feet in air. On this last pillar he lived for thirty years without once descending to the ground. His followers used a ladder to take to him the necessaries of life.

THE DOORWAY OF THE MONASTERY OF ST. SIMEON STYLITES

This monastery was the center of the order of the Pillar-hermits. At the age of thirty, Simeon was expelled from one monastery on account of his excessive austerity. It was then that he began his life on top of a pillar, from which he preached daily, exercising great influence over the populace, converting many heathen to Christianity, and taking an active part in ecclesiastical politics. At his death his body was removed to Antioch and his grave became a shrine.

Photograph by American Colony, Jerusalem

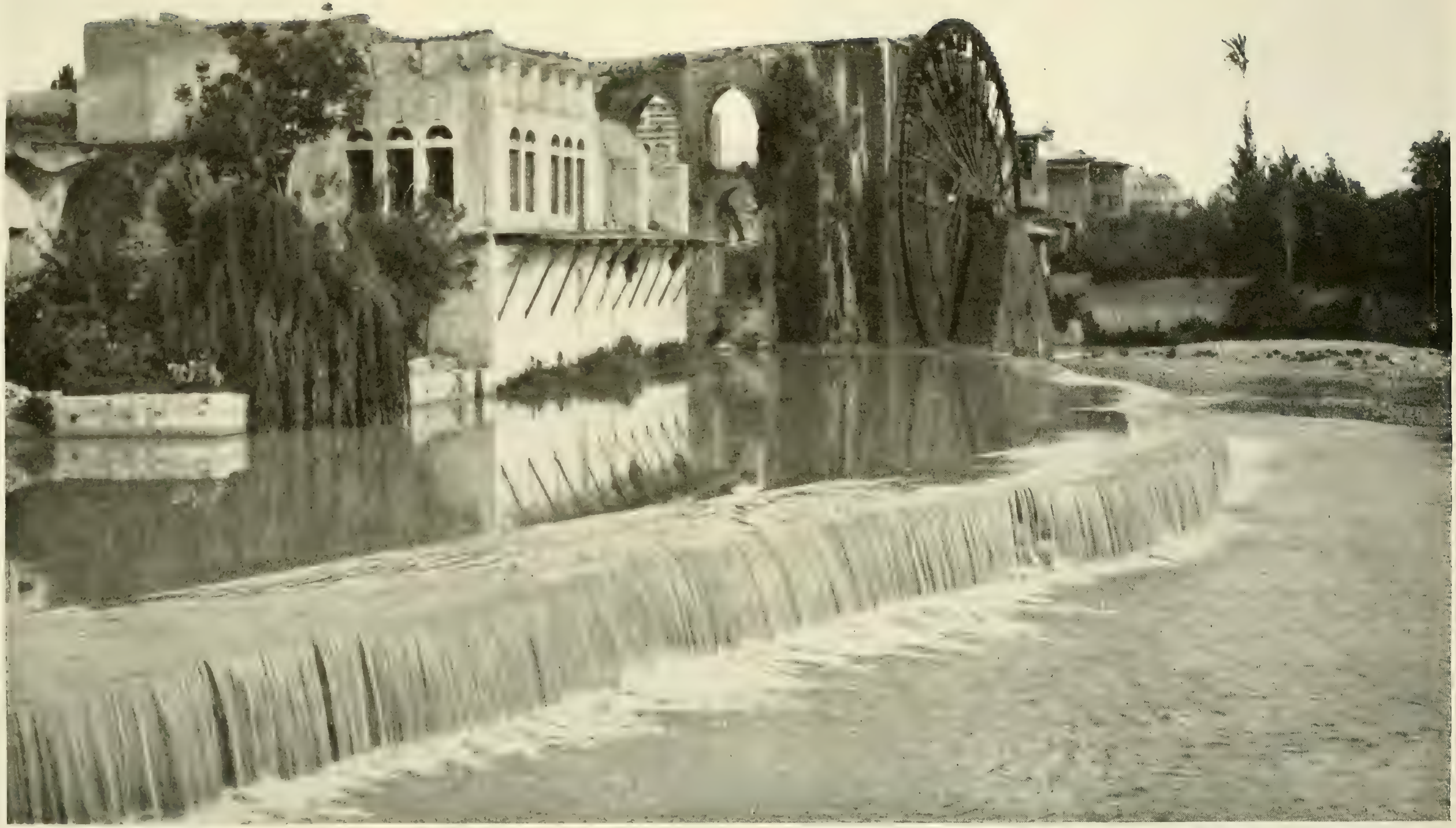
LICORICE ROOT BEING MADE READY FOR EXPORT TO AMERICA

Once a gay, glittering, sin-sated city, starting point of many of Rome's most important military expeditions in the Near East, and the third city in the world in point of size, Antioch today digs licorice roots as one of its chief means of livelihood.

Photograph by Maynard Owen Williams

CROSSING A STREAM AT THE FOOT OF MOUNT SILPIUS

Strabo, the geographer, gave to Antioch the name of Tetrapolis because of the four parts of the city, each surrounded by its own wall. The citadel crowned Mount Silpius, the last eastern spur of Mount Casius.



Photograph by Maynard Owen Williams

A WATER-WHEEL AT HAMA, ON THE ORONTES, SOUTH OF ANTIOCH

These ponderous contrivances, some of them eighty feet in height, are used to raise water for irrigation purposes. To each paddle which turns the creaking wheel there is fastened a bucket that carries water to the top and empties it into the aqueduct. Similar wheels, constructed entirely of bamboo, are found in Chengtu, West China.

used to be attended by a bevy of beautiful maidens. This goddess and her maids loved the mountain valleys, the wooded hillsides, the springs and streams.

APOLLO'S ADVENTURE WITH THE NYMPH DAPHNE

Apollo, happening one day to be in this beautiful valley, presumably to pay a visit to his huntress sister, chanced to spy the beautiful nymph Daphne. She espied Apollo at the same instant and set off in a wild flight down the valley. Of course, Apollo followed hard. She prayed to her mother, Earth, for protection, with the result that she was changed at once into a laurel. Imagine being in pursuit of a beautiful maiden only to have one's eager arms embrace the cruel branches of a bush!

The laurel was ever after sacred to Apollo, and with its leaves he crowned the victors in the games. The valley where this incident occurred was named Daphne in honor of the nymph and was held sacred to Apollo and Diana.

When the god started in pursuit of Daphne he was so eager that he carelessly threw down the handful of arrows which he carried. From one of these arrows the golden point was broken and remained hidden in the earth until the time of Seleucus Nicator. By the pawing of the conqueror's horse this golden arrowhead was uncovered.

What finally became of this prize is not recorded; but proof of the incident is deduced on certain coins of Antioch showing Apollo aiming an arrow into the earth. At any rate, this incident caused Seleucus to build a magnificent temple to Apollo on this spot. Daphne henceforth became such a center of worship and pleasure that Antioch was at times referred to as "Antioch near Daphne."

This temple of Apollo, embowered in a cypress grove, was built with splendid columns at both front and back and with numerous columns inside. Its walls and pavements were of beautifully colored marble and the roof and ceiling were of cedar; but the chief feature of the temple was the colossal statue of Apollo, made of wood and marble. All the exposed parts of the body were of gleaming white, but the portions covered by the robe were of wood.

At the side of the statue hung a cithera, rich with gold and gems, which the god touched with the fingers of one hand, while the half-open lips seemed to breathe forth a song. The other hand held a golden saucer, from which Apollo was about to drink or to pour forth a libation to Mother Earth.

The whole statue was richly decorated and was considered one of the finest works of art in this part of the world. Just when the statue was completed is not known, but certainly not later than the time of Antiochus Epiphanes, as it appears on his coins. It was finally destroyed by fire in the reign of the Emperor Julian.

MANY EXCESSES MARKED THE FESTIVITIES AT DAPHNE

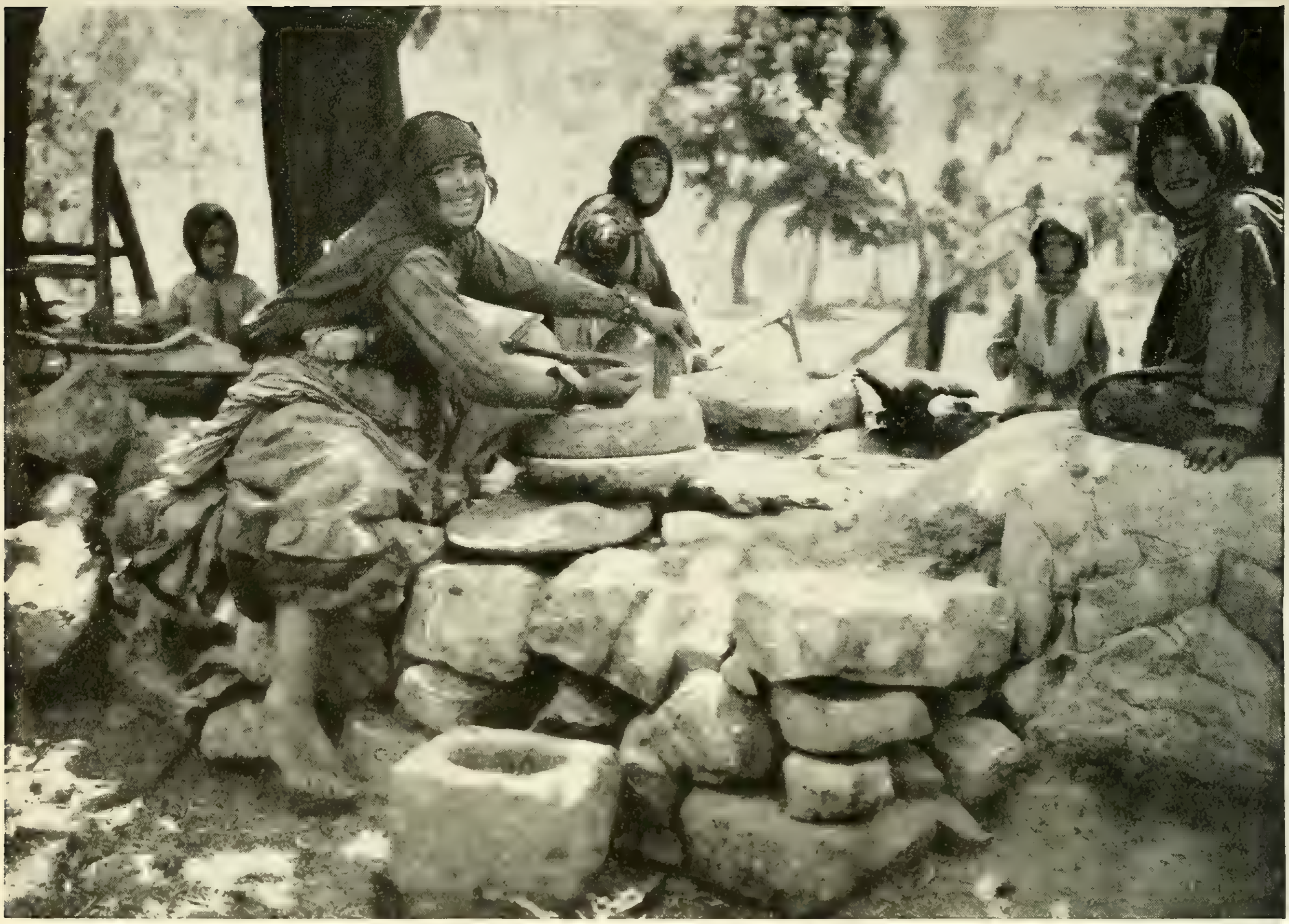
It would be difficult indeed to present an adequate account of the worship, the abuses and the excesses of this shrine of Daphne. Truly the place, in its natural surroundings and in its elaborate decorations, was beautiful beyond description.

The mountain slopes were covered with groves of cypress; the valley was green with clumps of laurel bushes; the banks were soft with grass and bright with flowers. The valley was sheltered from the winter storms, yet in the spring and summer soft breezes tempered the warmer air; and above all there was the water, splashing in fountains, foaming in picturesque cascades, rushing through a narrow gorge, quietly slipping by some little island, and always filling the air with a delightful coolness.

Add to this background of nature every fascination that the art and ingenuity of man could devise and Daphne became a place alluring, delightful, voluptuous.

But there was more than nature and art; there was also life. The temples and groves were peopled, not with gods, goddesses, and nymphs, for they were represented in statues of gold and marble, but with men and women, priests and priestesses, rendering this most beautiful spot a scene of vital activity.

It is difficult for us to imagine the splendor of the service in an ancient heathen temple. At Daphne, the flaming altar, the smoking censer, the ministering priests in gaily-colored robes of symbolic



Photograph by Ellsworth Huntington

SYRIAN WOMEN GRINDING WHEAT

The natives of the plains and hills in the vicinity of Antioch still pursue their daily tasks of the household in the same primitive ways which they practiced in the time of Christ.

meaning, the chanting of the service, and the religious procession, wreathed and garlanded with leaves and flowers, had all been brought to the highest state of perfection.

ROMAN SOLDIERS CORRUPTED IN THE GROVES OF DAPHNE

But there was more than the stately temple service that enticed worshippers to Daphne. There were the celebrations of the feasts, especially the great feast of the return of the year, when nature everywhere was bursting into life—the Feast of Fertility, poetic in conception, but when left free from the law of moral obligation degenerating into an immoral revel and debauch.

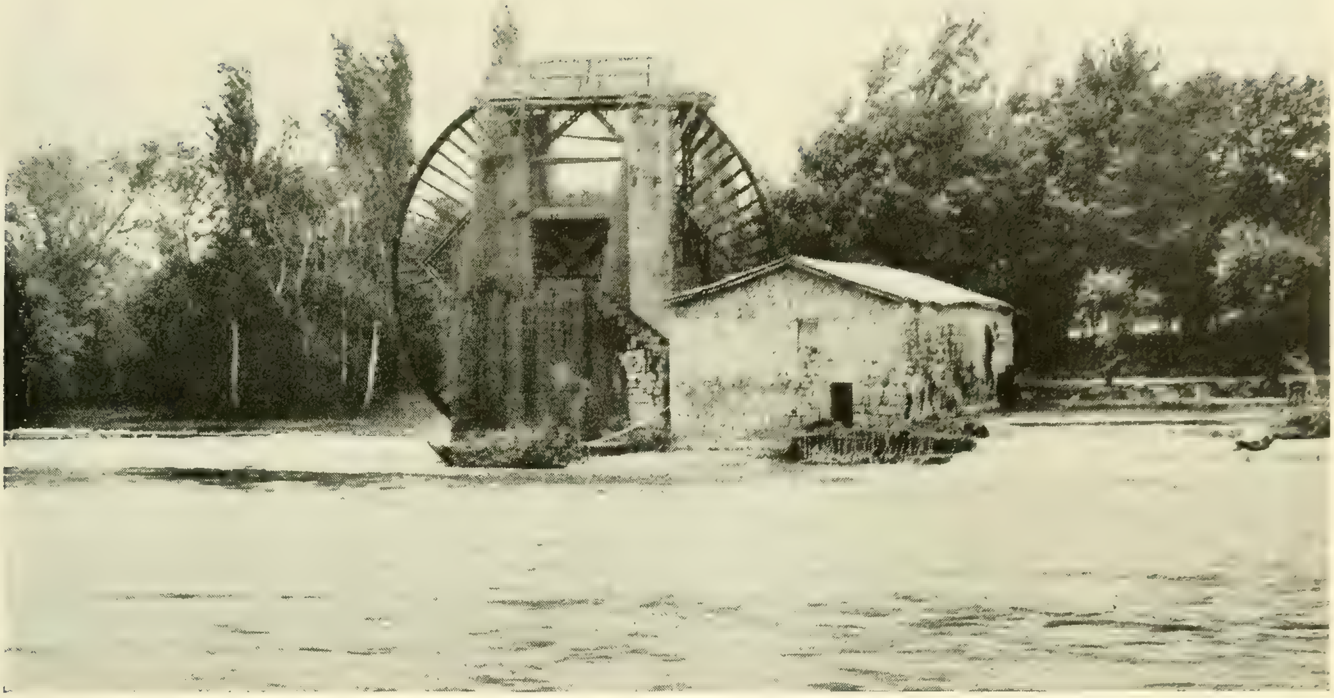
The very nature of Daphne, the very suggestion of the air, the very murmur of the brooks, all invited one to cast chastity to the winds and, under the name of religious worship, to indulge every passion. It was a true following of the tradition of Apollo and Daphne.

In the time of the Antonines there were many complaints that Roman soldiers and officers were being weakened by the pleasures of Daphne, and that Roman customs were first corrupted "when the Syrian Orontes emptied its filth into the Roman Tiber."

But the very extreme of wickedness at Antioch seems to have reacted for its reformation. Christianity spread rapidly in the city, and when the "apostate" emperor, Julian, came to sacrifice at Daphne and to try to revive the ancient rites, instead of the grand procession and the abundance of victims for the altar, a single priest came, bringing a goose for the offering.

A CITY OF DESTRUCTIVE EARTHQUAKES

Typhon, the terrible mythological dragon who was so fiercely at war with the god Zeus, is reported to have been buried in the mountains around Antioch after having been struck down by a thunderbolt. The old name of the river Orontes is



Photograph by Maynard Owen Williams

GREAT, CREAKING WOODEN WHEELS LIFT THE WATERS OF THE ORONTES TO THE IRRIGATION DITCHES, MAKING FERTILE THE ADJACENT PLAINS

Many luxuriant gardens still surround the city of Antioch, but the beauty of its once unrivaled suburban villas is gone forever.

said to have been Typhon. The struggles and twistings of this monster under the mountains were held to be the cause of numerous earthquakes along the Orontes Valley.

However fanciful this explanation may be, the fact remains that time and again the whole region has been devastated by fearful earthquakes. One ancient writer says the foundations of the earth were twisted, and that great cracks were opened in the earth and people were swallowed up alive.

Ten earthquakes have been enumerated which occurred between 150 B. C. and the sixth century A. D. Since that date there have been many more, and even at the present time frequent tremors are felt along the Orontes Valley.

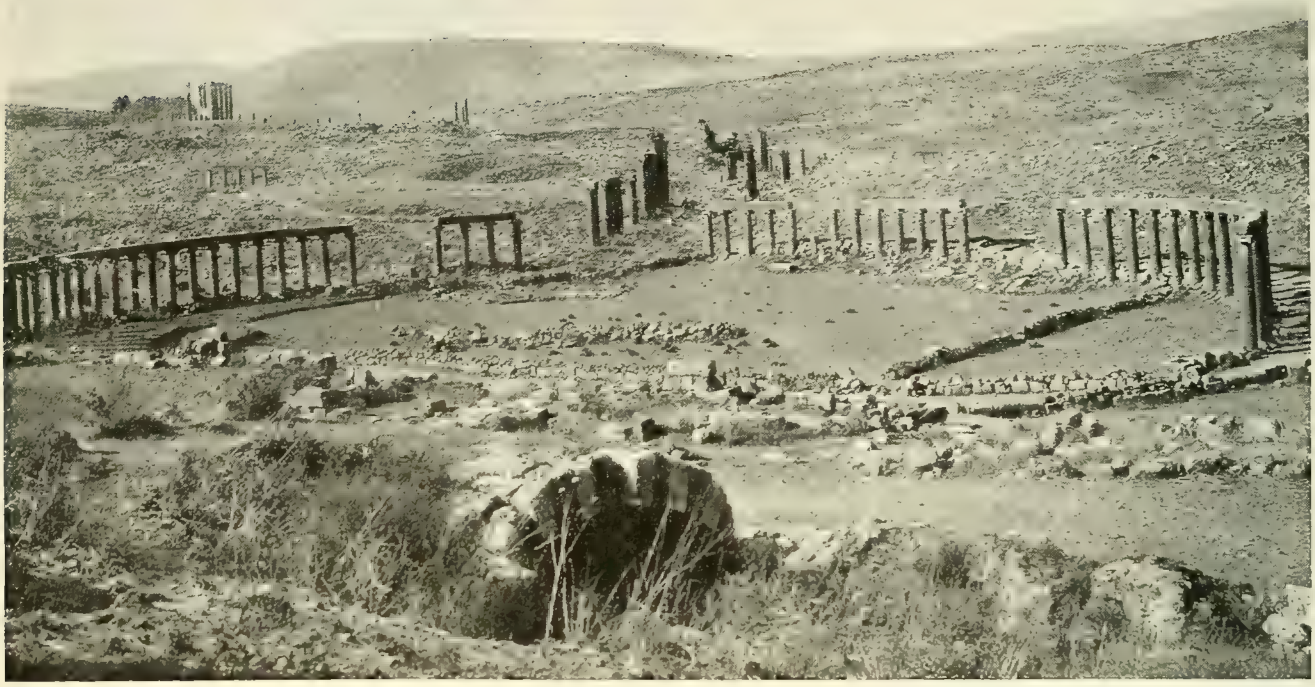
The two most destructive earthquakes occurred in the reigns of Trajan and Justinian. In the former it is said that even the people on Mount Casius trembled and the fountains and rivers underwent great changes. In the latter there was great loss of life. Large crowds of people had gathered in the city to celebrate the Feast of the Transfiguration. At this time it is said that the very earth seemed to bubble and rise and fires broke out all over the city.

ONE EARTHQUAKE COST ANTIOCH 250,000 LIVES

The loss of life from falling walls and flames is reported at 250,000. This number would seem almost incredible were it not for a similar appalling loss of life at Messina in recent years.

Besides the earthquakes, other misfortunes befell the city. The graphic account given by Gibbon of the earthquakes, fires, and plagues that from time to time devastated the Roman Empire might well be localized in Antioch. Besides these, there were the vicissitudes of war, plunder, and massacre that frequently visited the city.

After each calamity Antioch was rebuilt, but after the great destruction by the earthquake in Justinian's reign it



Photograph by Maynard Owen Williams

RUINS OF JERASH, ONCE ONE OF THE WEALTHIEST AND MOST FLOURISHING CITIES OF PALESTINE, WHOSE COLONNADED STREET IS SUPPOSED TO HAVE BEEN COPIED FROM THAT OF ANTIOCH

Situated among the mountains of Gilead, 20 miles east of the Jordan, Jerash once had a "naumachia" as big as the Yale Bowl, in which miniature ships fought naval battles for the delight of amusement seekers. Despite the ravages of time and of earthquakes and the depredations of a colony of Circassians which now inhabits the site and finds the ruins of temple, theater, and palace an inexhaustible quarry from which to take material for modern houses, more than 230 columns still stand as monuments to a glorious past.

never again arose to its former beauty or importance.

In the House of Seleucus there are three names that are especially known to readers of history—Seleucus Nicator, the founder of the dynasty; Antiochus III, sometimes called "The Great"; and Antiochus Epiphanes, best known, probably, for his persecution of the Jews and their rebellion under the Maccabees.

Seleucus Nicator extended his power until he ruled over practically the whole of Alexander's empire with the exception of Egypt. He met his death by assassination, when journeying to his old home in Macedonia. He was really the greatest of all the kings of Syria, both as a soldier and as an administrator. But Antiochus III, who ruled about 223 B. C., bore the title of "Great."

The latter was a combination of daring ability, personal valor, and inexcusable indecision. A happy combination of circumstances extended his empire to the Far East, over all Asia Minor, Greece, and Macedonia. But there he encountered the power of Rome. Hannibal appeared as his friend, seeing in Antiochus an opportunity of avenging himself on Rome. But the Scipios were completely victorious and Asia Minor was forever lost to Antioch.

ANTIOCHUS IV PROCLAIMED HIMSELF A DIVINITY

Antiochus IV, or Epiphanes, came to the throne in 175 B. C. with a Roman training. He was a genius, a profligate, and a spendthrift. Under him the city of Antioch was rebuilt, beautified, and adorned. Olympian games were introduced on a most extensive scale. A whole month was given to sports and feasts. To carry out all of his extravagant ideas, money in great sums was necessary. He therefore proclaimed himself to be god manifest in the flesh, identifying himself with Zeus. Then he proceeded to strip the temples of Syria and Palestine of their wealth. In his endeavors to despoil the temple in Jerusalem and to force the Greek civilization on the Jews, he aroused the fierce resistance of the famous Maccabee family.

WILD SCENES IN ANTIOCH'S STREETS

During the reign of Epiphanes no capital city ever saw such scenes as he enacted in the streets of Antioch. Whatever wild scheme of debauch or adventure could be suggested, this brilliant but mad king indulged in. Disguised as a common ruffian, he, with a group of boon companions, would commit every conceivable act of license in the gay thoroughfares of the city.

Yet Antiochus IV was an ardent patron of science, literature, and art. Extensive geographical explorations were carried on along the Persian coast; schools of poetry and oratory were encouraged; the finest specimens of architectural art and the most beautiful of sculptures were erected in his magnificent capital. He ended his life in a campaign against the Armenians, dying from a most noisome disease, a graphic account of which is given in the Book of the Maccabees.

THE LAST DAYS OF THE KINGDOM OF ANTIOCH

The last half century of the Kingdom of Antioch trails off into a story of petty jealousies between rival claimants for the throne, until all is swallowed up in the conquests of Pompey. Then, under Roman rule, Antioch enters upon its most glorious period of history.

Rome, of course, was the center of all magnificence and power. The city of Alexandria, in Egypt, was reckoned second in size and wealth. Antioch was considered the third city of the Empire, and hence of the world. But when one reads of this splendid city, the gateway of the East, the starting point of so many important military expeditions, the residence of so many scholars, generals, and emperors, he cannot but question whether Antioch were not merely the third city in the world, but almost the rival of Rome itself.

The city was finally lost to the Romans when it was captured by the Saracens, in 635. Arabic historians praise the city for its walls, its fine residences, and the number of its people; but they make no mention of its public buildings, which doubtless had been thrown down by the numerous earthquakes and had fallen into decay through the ravages of time.

The Crusaders captured the city in 1098 and held it as the capital of northern Syria until 1268, when it was captured by the Sultan of Egypt. In 1832 it was taken by Ibraham Pasha, but restored to Turkish rule at the conclusion of peace.

ANTIOCH'S GLORY FADED WITH THE ARRIVAL OF THE PERSIANS

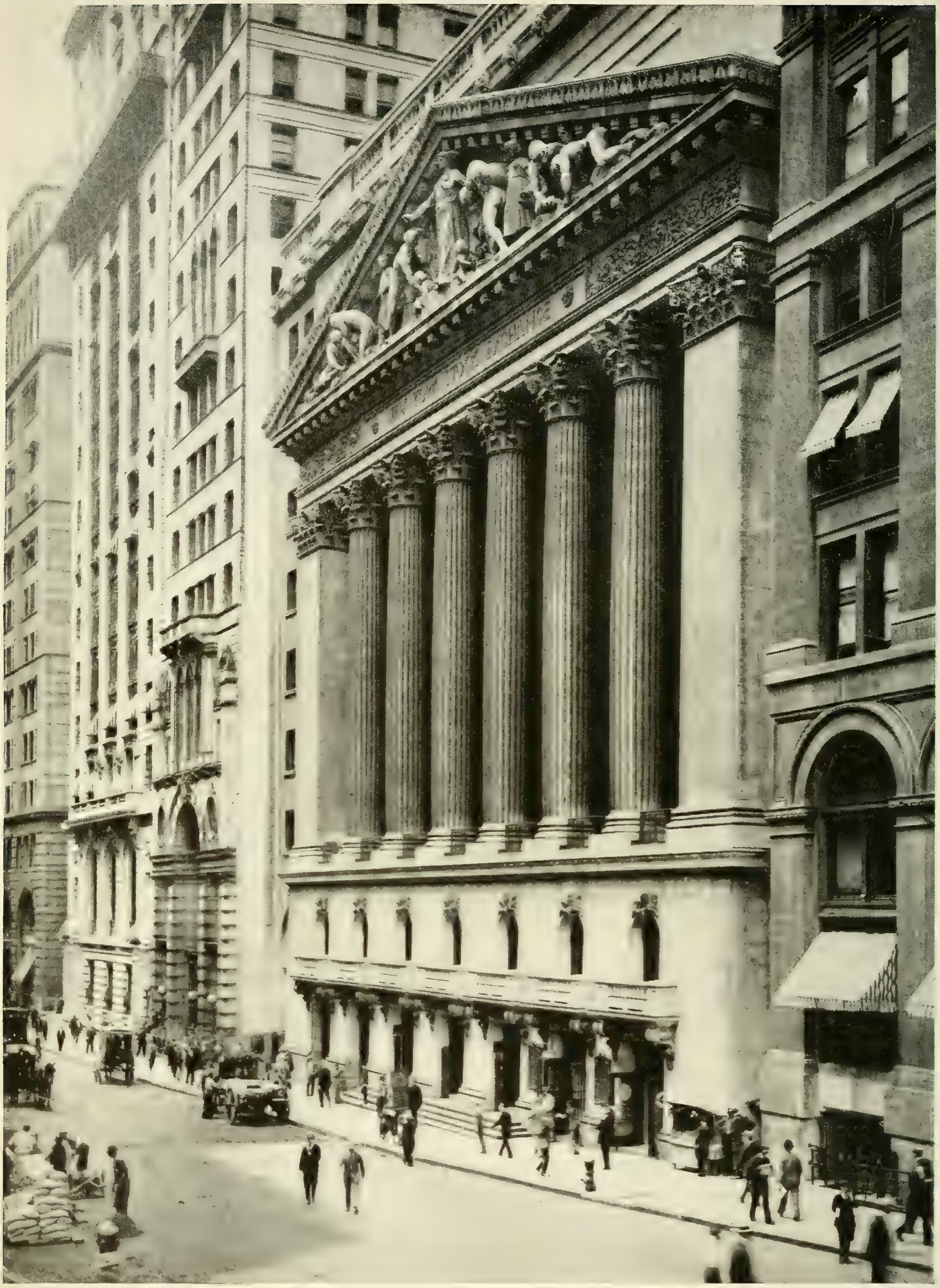
However, the glory of Antioch and its historical importance seem to have passed away when it was sacked by the Persians under Chosroes, in 538. At that time fire, plunder, and massacre followed one another. Many of the statues and beautiful marbles, together with large treasures of gold and silver and great companies of citizens, were carried away to the new Persian Antioch, near Ctesiphon.

There is a modern city of considerable importance. It occupies the site of the ancient city and is largely built from the old ruins. The splendid walls and gateways of the old city, fine specimens of architectural construction, are rapidly disappearing for building stone.

A large industry in the digging of licorice root is here carried on and the product is chiefly exported to America. Great creaking, wooden wheels lift the water of the Orontes to the level of irrigation ditches.

Luxuriant gardens still surround the city and roads radiate from the great bridge in all directions.

But Time's hand has fallen heavily on the once proud city and only the student of history, basing his view as much on his reading as on the visible reminders of a departed magnificence, can succeed in recalling the gay, glad days when "Antioch the Glorious" was the brilliantly jeweled "Crown of the East."



Photograph by Paul Thompson

THE STOCK EXCHANGE BUILDING, NEW YORK: NEAR THIS SITE, IN 1792, A GROUP OF BROKERS MET UNDER A BUTTONWOOD TREE AND ORGANIZED THE "NEW YORK STOCK EXCHANGE"

The Empire State was originally called New Netherlands by its Dutch settlers, but in 1664, when it was captured by the English, its name was changed to New York, in honor of the brother of King Charles II (see text, page 106).

THE ORIGIN OF AMERICAN STATE NAMES

By Frederick W. Lawrence

TO ALL Americans the origin of the names of our States should prove an interesting subject, and from it no small amount of history and geography is to be learned. It is, however, a more complicated subject to trace than the origin of the nomenclature of European States, which, for the most part, bear names derived simply from the ancient tribes by which they were formerly inhabited.

For example, England, Scotland, Hungary, Belgium, France, and Switzerland are names that come down to us more or less directly from the earlier tribal inhabitants of these countries.

The State names of the United States in many cases reflect the varied nationalities which first explored or colonized these States. Many bear Indian names, descriptive of some natural feature of the region or taken from some tribe living in that section, and we find a few named for European sovereigns and other individuals, while one bears the name of a fabled island of romance and another is named after a holy day. Still others bear names that do not fall into any particular class, but which must be treated individually.

Hence we find that, although the majority of our States have names of Indian origin, there are sufficient of English, French, and Spanish source to mark the limits of the exploration and colonization of those nations. The Indian names are typical of America, and although the red man has dwindled, both in numbers and power, his sonorous and euphonious place-names confront us on every hand.

Strong ties bound our earlier settlers to their mother countries, and from them were derived most of the early geographical names. While we cannot but admit that this may have shown a commendable love of the mother land, as evinced by a laudable desire to spread her place-names into the wilderness, it is also manifest that this tendency was in many cases indicative of a paucity of imagination and a poor sense of the fitness of names. The practice resulted in giving us many inappropriate place-names; for names such as New York, Maryland, and New Hampshire in themselves convey nothing to our minds. On the other hand, Kentucky, Massachusetts, and Alabama, although we may not be familiar with their exact meaning, at least speak to us of an earlier and sterner day, when the red man roamed this land and the settler cleared his farm and built his home with the ever-present menace of an Indian attack in view.

Indian names, when translated, generally tell of some natural feature of the region—of a swiftly flowing river, a vast lake, a mighty mountain—always something to which the Indian was bound by every tie.

THE INDIAN HAD NO ALPHABET TO RECORD HIS NAMES

Indian names have come to us in various and changed forms, for the Indian had no alphabet, and the white man had to represent his place-names phonetically as best he could; hence the wide divergence in the spelling of many Indian names. But, even in their changed forms, they are always flowing and beautiful in sound, as witness such names as Penobscot, Housatonic, Susquehanna, Kanawha, Catawba, and Tacoma. No names brought in from a foreign land can equal these for beauty and euphony, nor will any others serve to commemorate the vanishing race which once occupied our country.

Of our 48 States, we find that 25 bear names of Indian origin, while 12 are English, six Spanish, three French, and two bear names that must be considered, from a historical standpoint, American.

Considering the States with English names first, the origin of most of these will be familiar to us from our studies in American colonial history. The first of these is New Hampshire, the original territory of which was conveyed by a patent of the Plymouth Company to John

Photograph by U. S. Air Service

AN AIRPLANE VIEW OF NEW YORK'S SKYSCRAPERS AND BATTERY PARK

Mason in 1629 and named by him for the English county of Hampshire.

RHODE ISLAND OWES ITS NAME TO A DUTCH NAVIGATOR

When the Dutch navigator Adrian Block sailed into Narragansett Bay, about 1614, he encountered an island of fiery aspect, due to the red clay in some portions of its shores. He called it Roode Eylandt (Red Island), and the surrounding country received its name from that of the island. The English settlers, who, with Roger Williams at their head, received a charter for this region from the English Crown in 1644, Anglicized the name, making it Rhode Island. There is a theory, also, that our smallest State was named after the Island of Rhodes, in the Mediterranean, but it is difficult to substantiate this claim, as the two localities in no way resemble one another.

The Empire State, New York, as is well known, was originally called New Netherlands, while the city was known as New Amsterdam. But when the colony was taken over by the English, in 1664, the names of both were changed to New York, not, as might be supposed, after the city of York, England, but in honor of Charles II's brother, the Duke of York, afterward James II of England, to whom the grant was made.

The duke, in turn, transferred the southern portion of his grant to Sir George Carteret, who settled there and named the country after the Channel Isle of Jersey, which place he had bravely defended against the Parliamentary forces in the English civil war.

PENNSYLVANIA IS THE ONLY STATE BEARING ITS FOUNDER'S NAME

In the southern portion of New Jersey and in Delaware the Swedes made their only American settlement, which they called New Sweden, but the colony was short-lived and only a few town-names

Photograph by U. S. Air Service

THE WATERFRONT OF THE WORLD'S LARGEST CITY, AS SEEN FROM THE AIR: THE STEAMSHIP PIERS OF NEW YORK

remain today to remind us of their occupation.

Charles II of England, the "Merry Monarch," spent so much of his country's funds on pleasure that state debts often remained unpaid. One of these was for salary to one Sir William Penn, one of the lords of the admiralty, who, on his death, bequeathed the claim, which amounted to some £16,000, to his son, William Penn, a Quaker. The latter agreed to accept a land grant from the crown in exchange for the debt. The land was described in the royal grant as "a tract of land in America, lying north of Maryland, on the east bounded by the Delaware River, on the west limited as Maryland, and to the northward to extend as far as plantable." Had this last boundary been strictly adhered to, Pennsylvania would indeed be the largest State in the Union.

Penn wanted to call this land "Sylvania" on account of its vast forests, but the king insisted that the founder's name be incorporated in that of the colony, and thus it is as Pennsylvania, literally "Penn's woods," that the Keystone State is known to us today. It is the only State named for its founder.

Our second smallest State, Delaware, bears the name of Lord de la Warr, first governor and captain-general of Virginia, who in 1630 went on an exploring expedition in the bay and river after which the State is named.

In this connection it is interesting to note that the Leni-Lenape tribe of Indians were also called Delawares, after the river valley which they inhabited, this being a reversal of the custom of naming a State after an Indian tribe.

The first English Roman Catholic settlement in America was made in Mary-

Photograph by Kenneth D. Smith

EAGLE LAKE AND MOUNT LAFAYETTE, WHITE MOUNTAINS, NEW HAMPSHIRE

New Hampshire was named for a county in England. Its nickname is "The Granite State."

Photograph by U. S. Air Service

A RAILROAD ROUNDHOUSE PRESENTS A STRANGELY SYMMETRICAL PICTURE FROM THE AIR: PHILADELPHIA, PENNSYLVANIA

As the home of Independence Hall and the birthplace of the Declaration of Independence, the Keystone State, whose name means "Penn's Woods," has chosen "Virtue, Liberty, and Independence" for its motto.

land, in 1634, and this colony, by the way, was the first to extend religious toleration to all. It was named after the queen of Charles I, Henrietta Maria, who was the daughter of Henry of Navarre and was of the Roman Catholic faith.

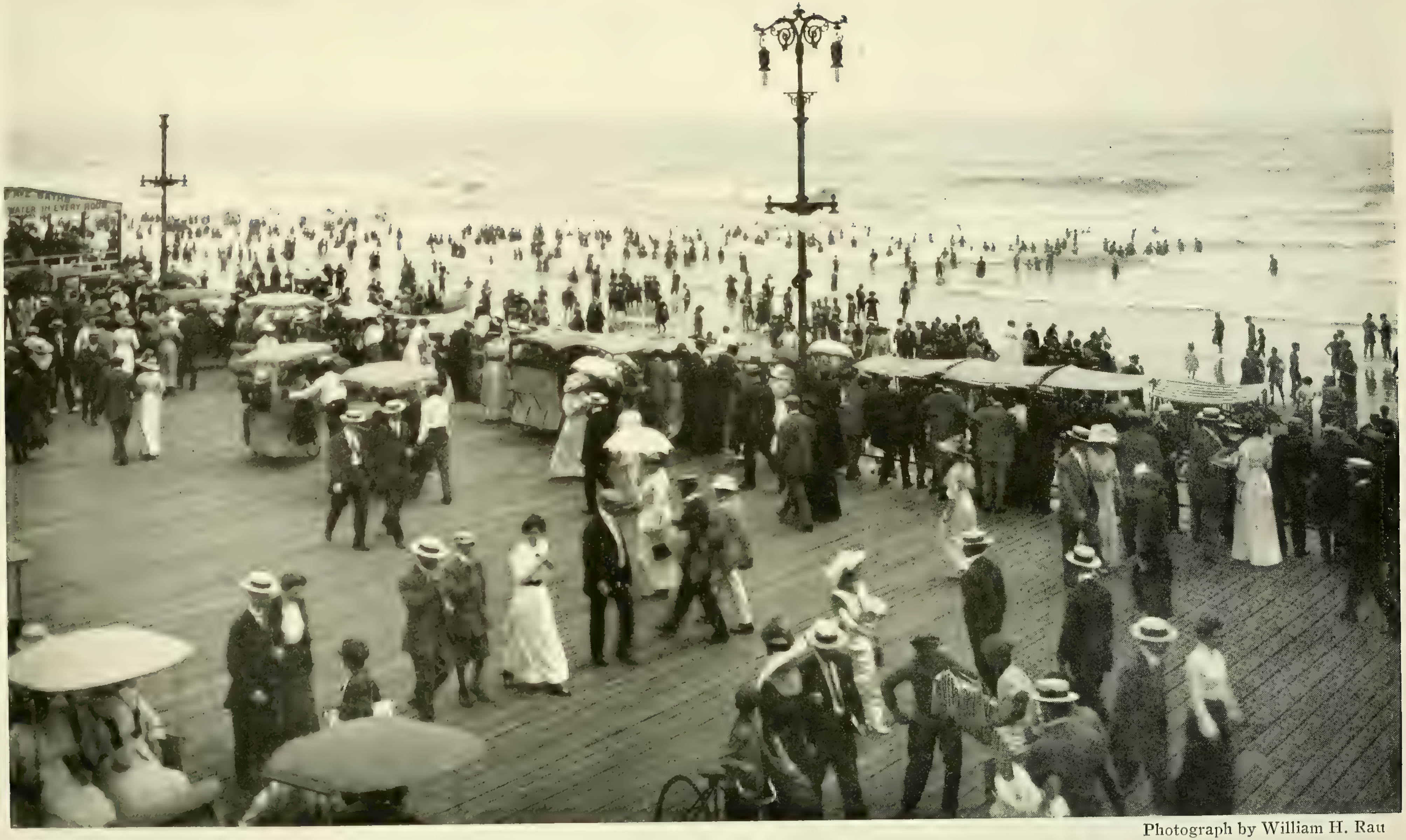
LOYALTY OF SETTLERS TO THE BRITISH CROWN REFLECTED IN STATE NAMES

The strong tendency of the earlier English settlers to perpetuate English royal names in their settlements is indicative of their loyalty to the crown and is further illustrated in the names of the Virginias, the Carolinas, and Georgia.

The first of these was named by Sir Walter Raleigh for Elizabeth, the Virgin Queen, who was on the throne of England when the first settlements were attempted, in 1585. It is interesting to note that Virginia is the only State whose name appears in literature associated with the royal title. Spenser dedicated his "Faerie Queene" to "Elizabeth, by the grace of God, Queene of England, France and Ireland and of Virginia."

When the State of West Virginia was formed, in 1863, it was first proposed to call it "Kanawha," after one of its rivers, and much regret has been voiced that this fine old Indian name was not adopted.

There has been some confusion as to which King Charles the Carolinas were named for. In 1560 Jean Ribault, a French explorer, named this region after Charles IX of France. The name, how-



Photograph by William H. Rau

PLEASURE-SEEKING THRONGS ON THE BEACH AND BOARDWALK AT ATLANTIC CITY, NEW JERSEY

The Duke of York, for whom the colony and city of New York were named, transferred the southern portion of his grant to Sir George Carteret, who named the country New Jersey, after the Channel Isle of Jersey (see the article on "The Channel Islands," in this issue of The Geographic).

ever, did not come into general use and for a time disappeared. About 1630 the country was referred to as Carolina in some English state papers, and it was considered to have been so named after Charles I of England, but it was not until 1663 that the name Carolina was definitely applied to this section by the lords proprietor, who had received a grant to the land from Charles II and who named the country in his honor.

Georgia was named by and for King George II of England, and the colony was referred to under this name in the charter which that monarch granted to General Oglethorpe, the founder, in 1732.

THREE OF OUR STATES HAVE FRENCH NAMES

Of the three States bearing French names, the origin of one is doubtful. This small number is out of proportion to the extent of French explorations, evidence of which can be gained from the trail of French place-names from the mouth of the St. Lawrence, through Montreal, Quebec, and the Great Lakes, Detroit, Sault Ste. Marie and Duluth, down the Mississippi Valley, past Des Moines and St. Louis to New Orleans.

The French made some great discoveries—the St. Lawrence, some of the Great Lakes, and Lake Champlain, for instance. They were fearless adventurers: no land was too wild to explore, no river too swift to cross or too dangerous to navigate, no mountains too high to ascend. But the fact remains that, in spite of all these accomplishments, they were not vigorous colonists.

Vermont was first explored by Samuel de Champlain in 1609 and was so named by him after its Green Mountains (Vert Mont), which are the dominating natural feature of the State. It is altogether fitting that the name of this intrepid explorer should be perpetuated in that of the largest fresh-water lake in the United States (aside from the Great Lakes), which forms the greater part of the western boundary of the Green Mountain State.

The generally accepted version of the origin of the name of Maine is that it was so called by some early French explorers after the French province of that name, wherein was located the private estate of Henrietta Maria, wife of Charles I of England.

There is another meaning ascribed to the name, fairly well supported by authorities. According to this version, the fishermen on the islands along the coast of Maine always referred to that region as the "Mayn land," and in support of this theory we find the colony referred to in a grant of Charles I to Sir Fernando Gorges in 1639 as "the province or county of Mayne."

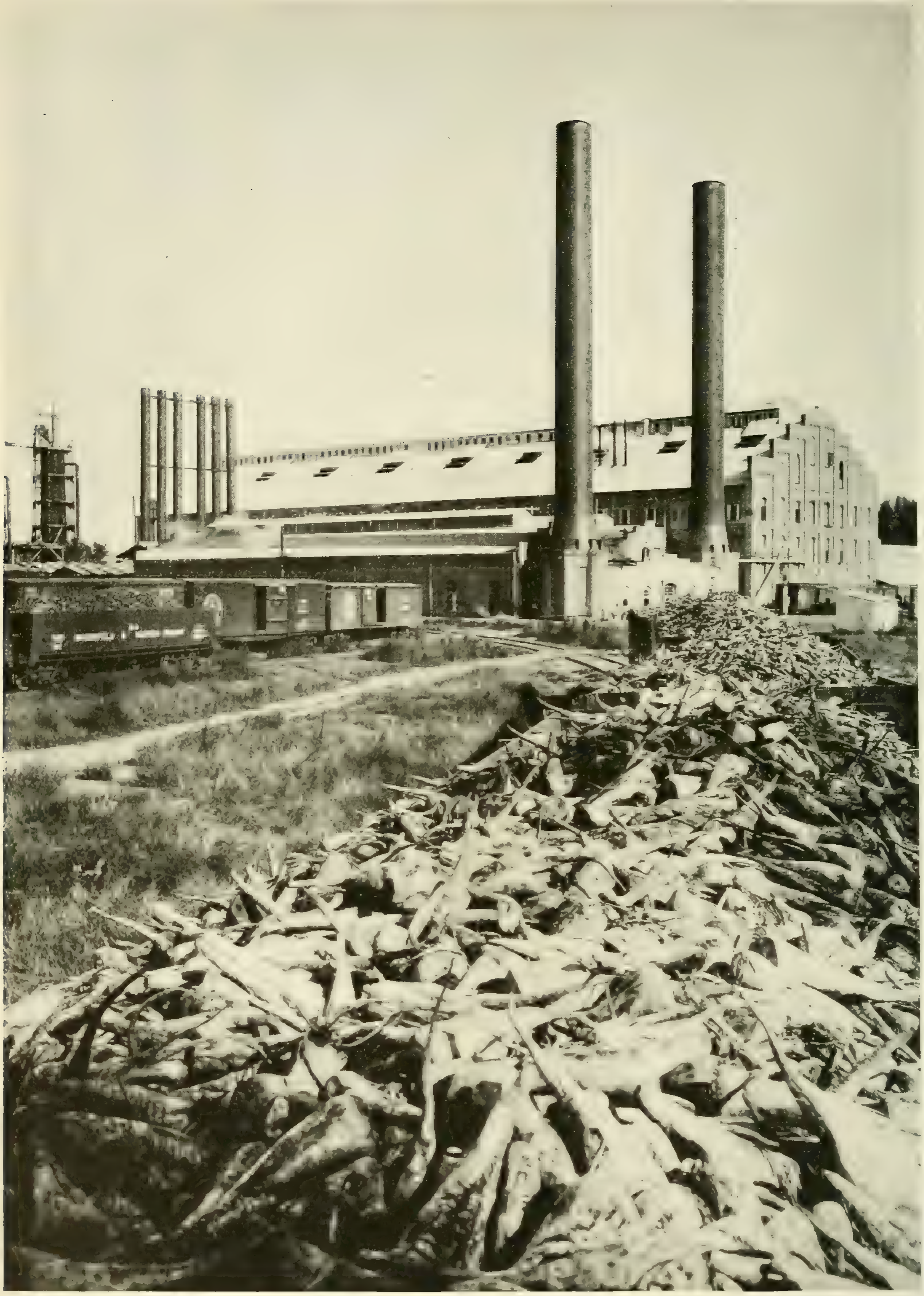
The third State name of French origin is that of Louisiana, so called in honor of Louis XIV. The name was first applied in 1683 by the daring French explorer, La Salle, who employed it to indicate the vast territory watered by the Mississippi and its tributaries.

THE SIX STATES WITH SPANISH NAMES

Permanent Spanish settlements within the present boundaries of the United States were made earlier than those of any other country and they were numerous. As a result, we have six States bearing names of Spanish origin, and in them and their neighbors we find a large number of towns and counties from this tongue.

The course of the early Spanish explorers can be traced from Florida with such place-names as St. Augustine (an Anglicized form of the Spanish name), Hernando and Fernandina; through Texas with Corpus Christi, San Antonio, and El Paso; New Mexico with Santa Fe, Las Vegas, and Albuquerque; Arizona with San Carlos and many smaller Spanish-named towns, to California, with San Francisco, Sacramento, and Los Angeles and a host of "Sans" running the whole list of saints' names from Anselmo to Rafael. In southern Colorado, Nevada, and western Utah, also, traces of Spanish exploration and settlement can be gleaned from the place-names.

The first State to bear a Spanish name was Florida, which was discovered by Ponce de Leon on Easter Sunday, 1512. Two theories exist regarding the origin of the name. One refers to the Spanish term, Pascua Florida (Easter Sunday—



THE SUGAR BEETS OF CALIFORNIA ARE SUPPLEMENTING THE CANE FIELDS OF CUBA AND LOUISIANA IN ABATING THE WORLD'S SUGAR SHORTAGE

The name "California" originally appeared in a Spanish romance. It was supposed to be an island of fabulous wealth. The followers of Cortez applied it to Lower California, and later it spread to the present State. The choice of this name, suggesting a place of gold and precious stones, seemed almost prophetic.

Photograph by Eugene S. Jones

OFF OWLSHEAD: ROCKLAND, MAINE

Maine, the Pine Tree State, is one of the three Commonwealths of the Union whose name is supposed to be of French origin.

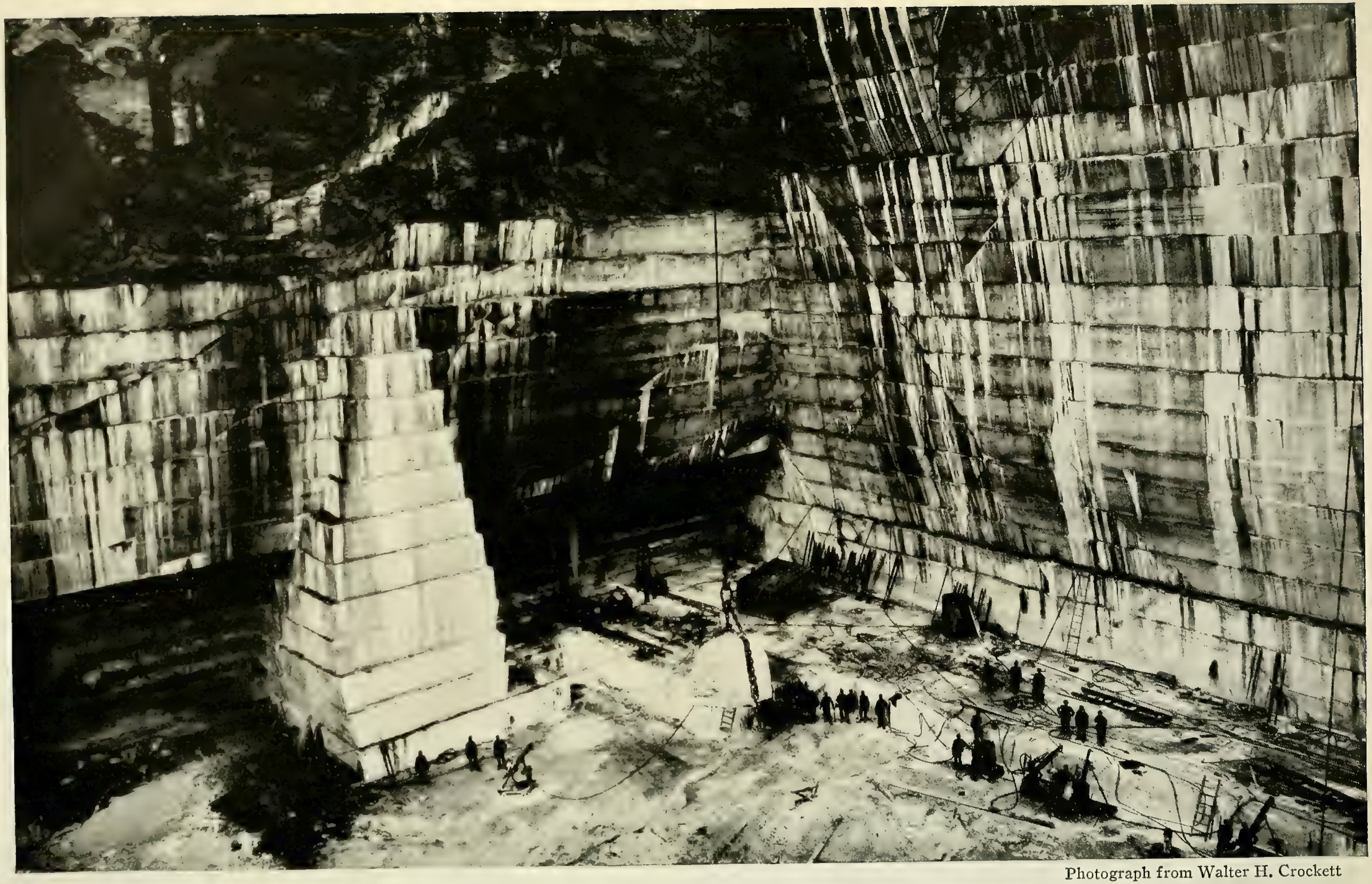
literally, "Feast of the Flowers"), having reference to the flowers with which the churches in Spain are decorated on that day. In view of the day on which the discovery was made, this is probably the correct explanation of the origin.

The second theory is that Ponce de Leon simply used the word "Florida," meaning "flowery," from the aspect of the country.

The other Spanish-named States lie in the Far West. Any one who has seen the snow-clad peaks of Nevada can well appreciate the descriptive word, "Snowy."

While not explored or colonized by Spaniards, Montana bears a Spanish (some say, Latin) name. This large State's giant ranges and cordilleras make its name, which means "Mountainous," singularly appropriate.

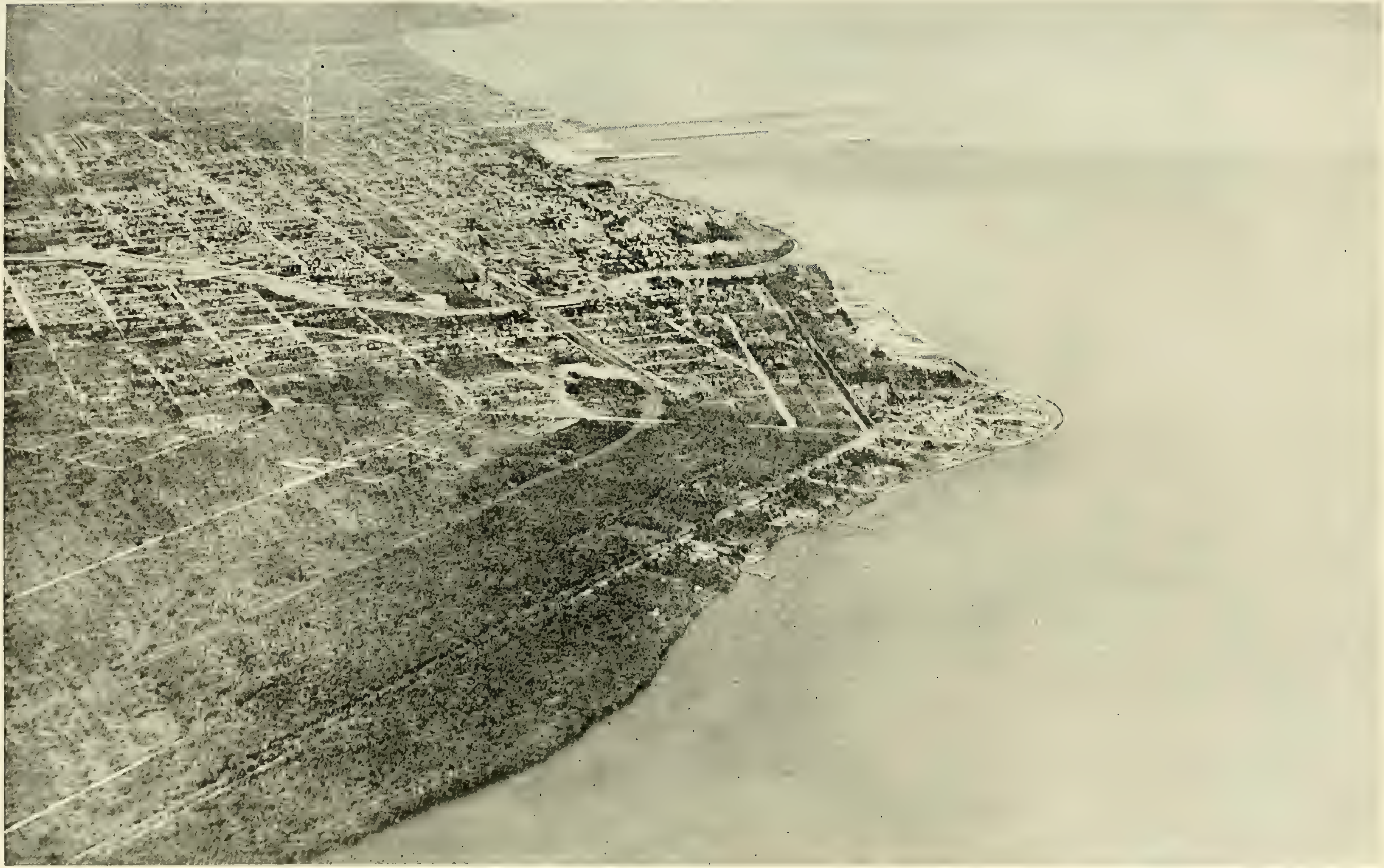
Colorado was probably named from the river, although only its tributaries flow through the State. The word is Spanish for "red" in the sense of



Photograph from Walter H. Crockett

THE SUTHERLAND FALLS MARBLE QUARRY AT PROCTOR, VERMONT

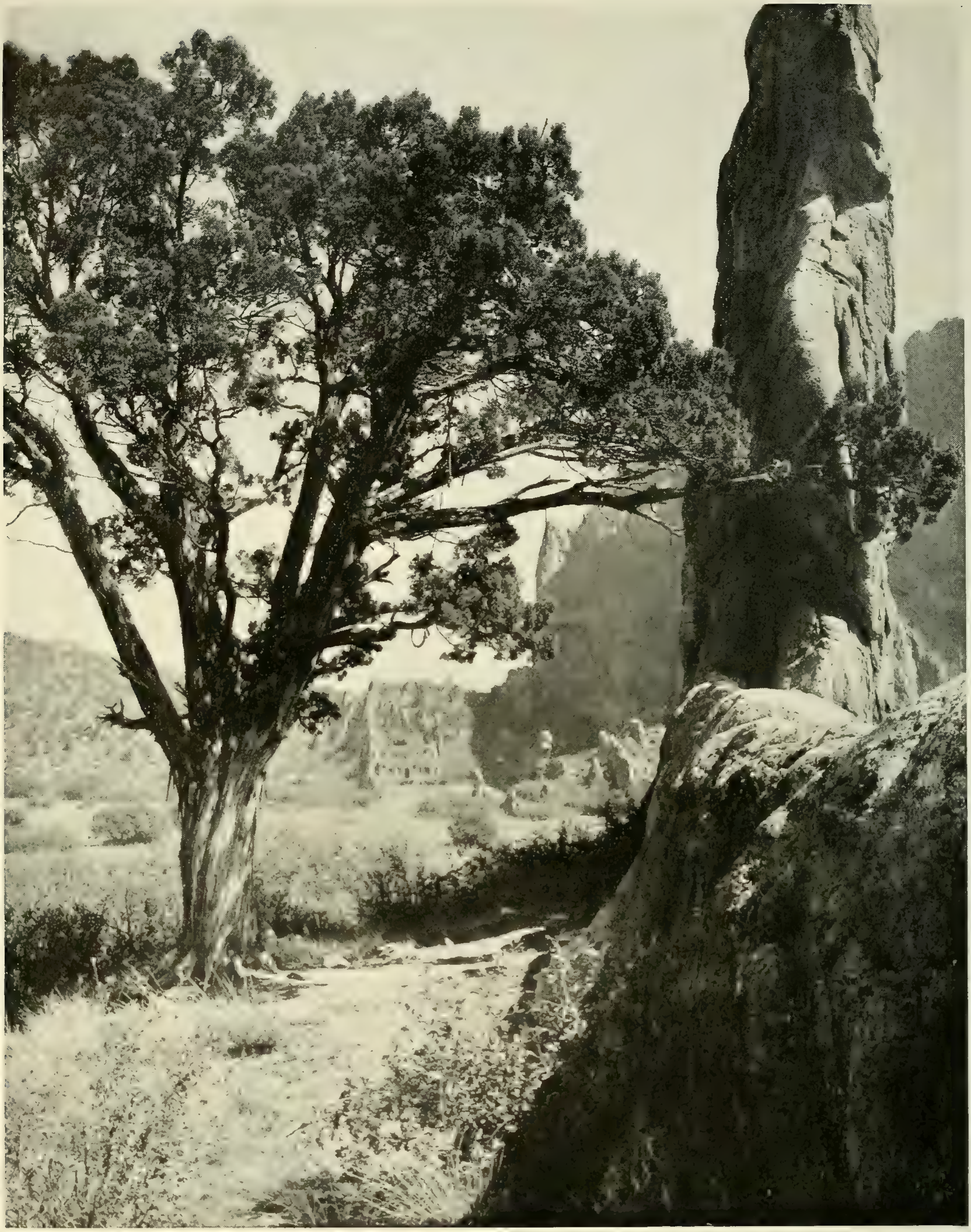
Vermont has accepted for its nickname the English equivalent of its French name, Green Mountain (Vert Mont). Inasmuch as its neighbor, New Hampshire, is known as the Granite State, it might with propriety be called the Marble State, in recognition of such magnificent quarries as this at Sutherland Falls.



Official Photograph U. S. Navy

MIAMI, FLORIDA, AS SEEN FROM AN AIRPLANE

Florida owes its name to that searcher for the fountain of perpetual youth, Ponce de Leon, who sighted the Peninsula State on the day of the year celebrated in Spain as the Feast of Flowers. The beautiful aspect of its blossoming landscape, as well as the day of its discovery, made it eminently appropriate that the explorer should call it "Florida" (Flowery Land) (see text, page 111).



Photograph by the Photo Craft Shop

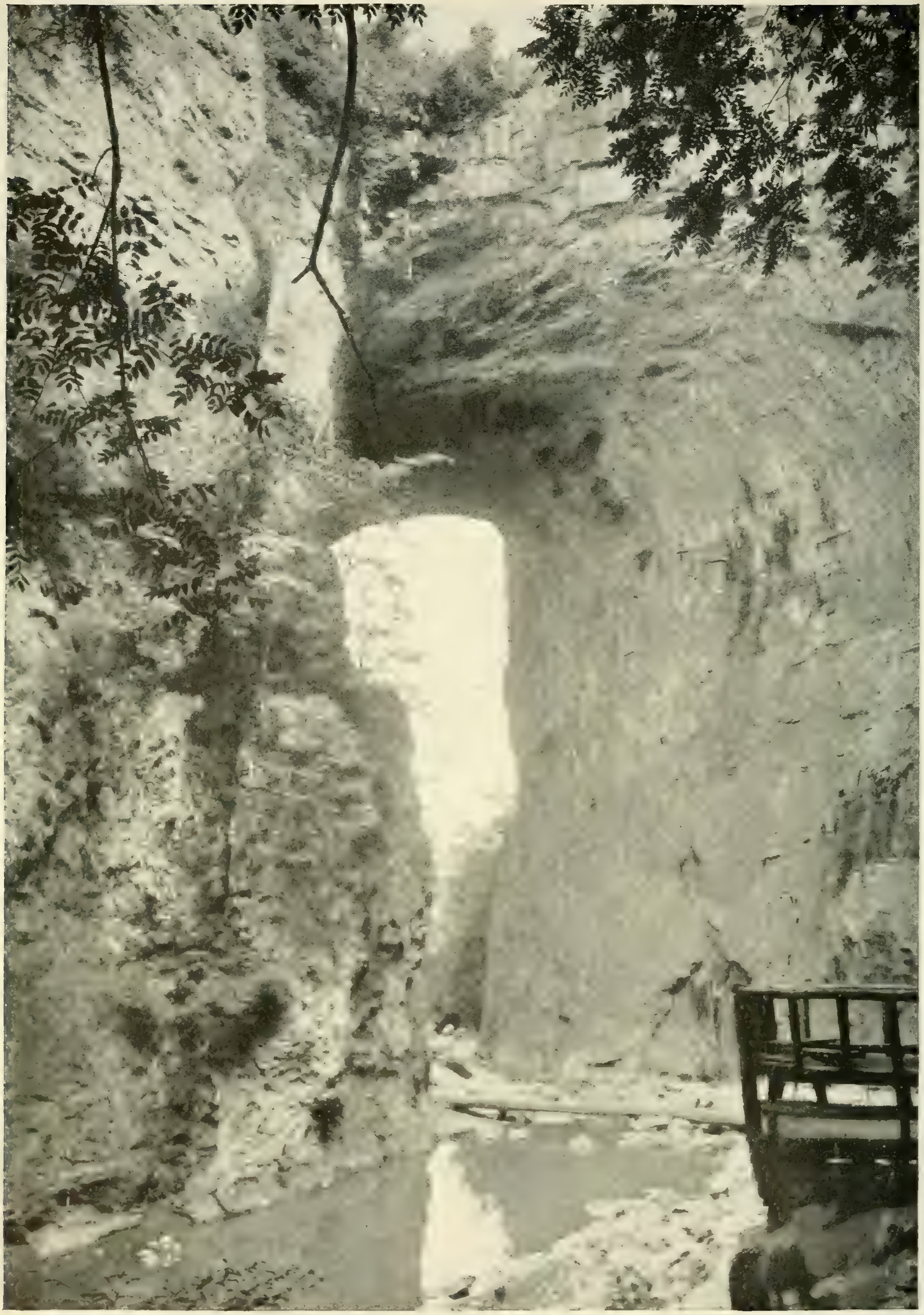
THE GARDEN OF THE GODS, COLORADO SPRINGS: COLORADO

The Garden of the Gods is now a part of the Colorado Springs park system, having been transferred on Christmas Day, 1909, by the children of the late Charles Elliott Perkins, with the stipulation that the tract be forever kept open and free to the public. The red-rock formation of this region recalls the fact that the word "Colorado" means "red" in Spanish.

Photograph from N. H. Darton

THE GRAND CANYON OF THE COLORADO

Joaquin Miller, the poet, said of this scene: "Looking down more than half a mile into this 15-by-218-mile paint pot, I continually ask, 'Is any fifty miles of Mother Earth that I have known as fearful, as full of glory, as full of God?'"



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VIRGINIA'S FAMOUS NATURAL BRIDGE

Known both as the "Old Dominion" and as the "Mother of Presidents," Virginia was christened by Sir Walter Raleigh in honor of Elizabeth, the Virgin Queen (see page 109).

"ruddy," and may come from the color of the stream at some places. Then, again, it is possible that the State was named from the red earth of some regions which were settled in the early days.

The name of California was originally given by some of the followers of Cortez, the conqueror of Aztec Mexico, to what is now known as Lower California, whence the name spread to the present State. The imagination of Cortez's men had been fired by the reading of an old Spanish romance of chivalry called "Las Sergas de Esplandian," in which was described a fabled island called California, where gold and precious stones in abundance were found, and they gave this name to the new land which they had discovered. It is strange that a name accidentally given should later prove so descriptive.

Some years later Sir Francis Drake, the daring English navigator, sailed into San Francisco Bay and called the region "New Albion"; but the name did not "take."

As to Oregon, the best information obtainable regarding the origin of its name is of varied nature and several theories are equally well supported. The first recognized theory is that the name was taken from that of a species of wild sage called "origanum," which grows in profusion on the coast of the State. The second is to the effect that the name is derived from the Spanish word "Oregones," meaning "Big-eared Men," supposed to have been given to the natives by a Jesuit priest who settled in that country in the early days.

Joaquin Miller, "The Poet of the Sierras," said that the name came from the Spanish "Aura Agua," meaning "Gently Falling Waters." It is on the strength of these two latter theories that this name is included with those of Spanish origin. Several other more obscure theories exist, but neither these nor the three mentioned above can be substantiated.

AMERICAN NAMES FOR ONLY TWO STATES

Two States may be said to have American names. The first is Washington, named for the Father of his Country, and the second Indiana, so called on account of the purchase and subsequent settlement by various Indian tribes of large tracts of land north of the Ohio River and within the present boundaries of the State.

INDIAN NAMES DERIVED FROM SEVERAL TONGUES

When we review Indian State names, we must remember that there was no one Indian tongue. Instead, there were several separate and distinct languages, and each of these was divided into many dialects. Hence the wide variance in Indian names in different sections of the country. For instance, note the wide difference between Penobscot and Kennebec in Maine and Chattahoochee and Apalachicola in Florida. Then, again, Mount Katahdin, in Maine, and the Kittatinny Range, in New Jersey, are from the same Algonquin tongue, but represent the Abenaki and Leni-Lenape, or Delaware, forms of the word for "Great Peak."

Most, if not all, of these Indian terms have suffered corruption at the hands of the white man, in some cases to such an extent that all connection with the original word seems to be lost; but the names as they remain still retain their beautiful and sonorous sound.

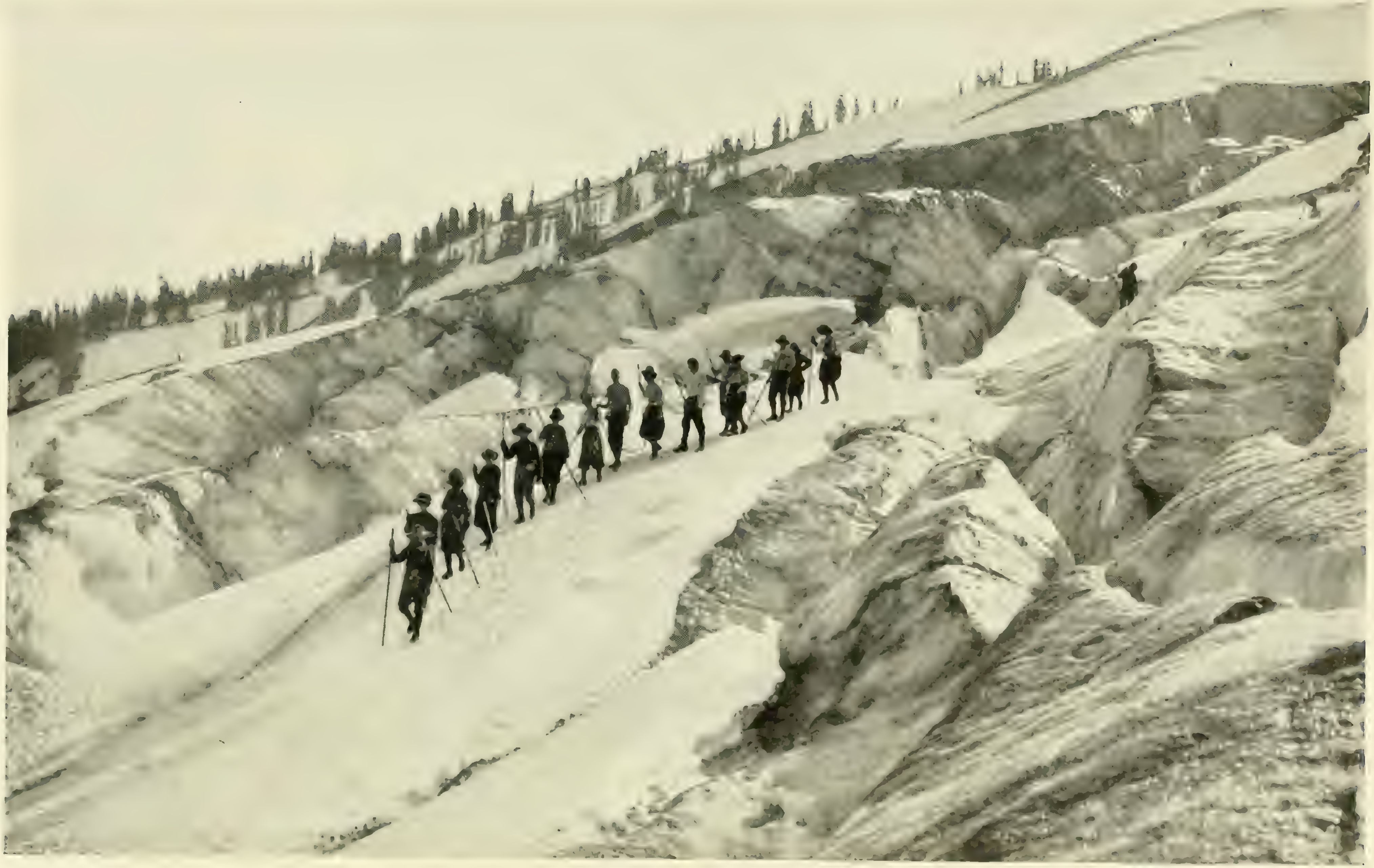
From the translation of Indian names we gain an idea of the practical mind of the Indian. He lived in the open, close to nature; he hunted and fished throughout his whole life, and his constant contact with the forests and streams, hills and plains, shows in his system of nomenclature, for his place-names are most descriptive and invariably based on some natural feature of the country.

The Indian never took names from other lands than his, and did not honor individuals with geographical names, as does the white man. He was seldom satisfied with short descriptive names, such as could be translated into "green hill" or "swift river," but was partial to polysyllabic names, which, when translated, had such meanings as "honey water of many coves" or "winding river of many fish." Such translations of Indian names remain with us, although the original words may have been shortened or corrupted by the white man.

Photograph by Barnhill

ON THE MOUNT MITCHELL RAILROAD AT RAINBOW GAP, NORTH CAROLINA

Historians disagree as to which of three kings is honored in the State names of North and South Carolina (see text, page 109).



Photograph by Curtis & Miller

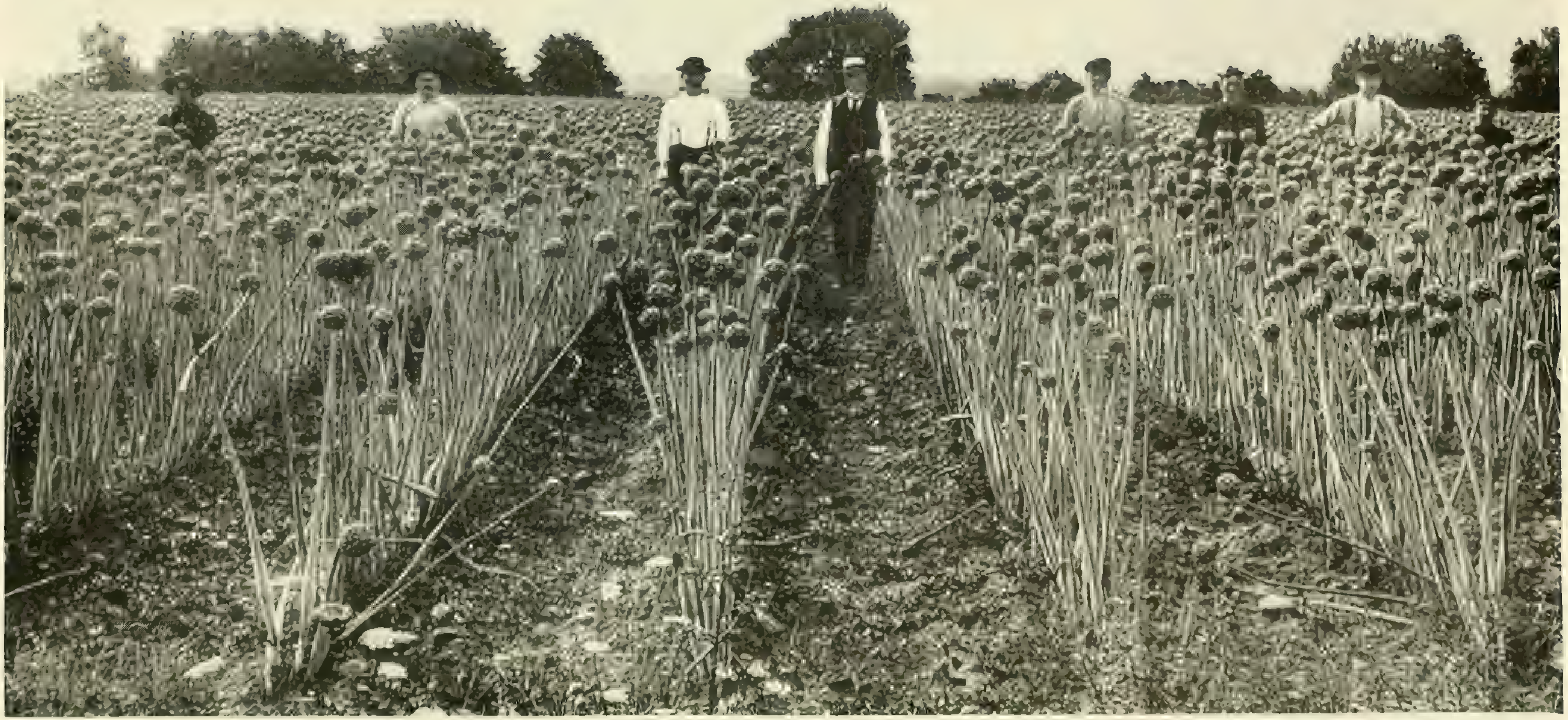
CROSSING BOULDER GLACIER, MOUNT BAKER, WASHINGTON

In its name Washington honors the memory of the Father of His Country. There is no State named for the discoverer of America, but the District of Columbia makes amends for the oversight.

Photograph by Putnam & Valentine

A VIEW OF MOUNT HOOD, OREGON, FROM VANCOUVER, WASHINGTON, ON THE COLUMBIA RIVER

The "Evergreen State" is one of the two States of the Union having a strictly American name, the other being Indiana (see text, page 119).



Photograph from Peter Henderson & Co.

ONION SEED FOR THOUSANDS OF GARDENS BEING GROWN IN CALIFORNIA

The poppy is California's State flower and "Golden" its sobriquet. These seed pods in appearance suggest the opium poppy pods of Asia Minor.

Photograph by Putnam & Valentine

THE HIGHWAY AROUND LAKE TAHOE: CALIFORNIA

Sir Francis Drake, the English navigator, named California "New Albion," in honor of England, but the name did not "take." The coined name "California," taken from the Spanish romance, "Las Sergas de Esplandian," proved to be more appropriate.

Photograph by Putnam & Valentine

ALONG THE COLUMBIA RIVER, OREGON, ONE OF THE MOST MAJESTIC HIGHWAYS IN THE WORLD

Known both as the Beaver and the Sunset State, the origin of the name Oregon is traced to several sources, some authorities maintaining that it is derived from the name of a species of wild sage which grows here in profusion, while others attribute it to a Jesuit priest, who gave the name "Oregones" (Big-eared Men) to the Indians living "where rolls the Oregon."

The first State to bear an Indian name was Massachusetts, which was named for the bay—indeed, until 1780 the State bore its colonial name of "Massachusetts Bay" and has been nicknamed "Old Bay State." The word means "At or Near the Great Hills" and probably has reference to the heights of land around Boston, seen from the bay when approaching that city.

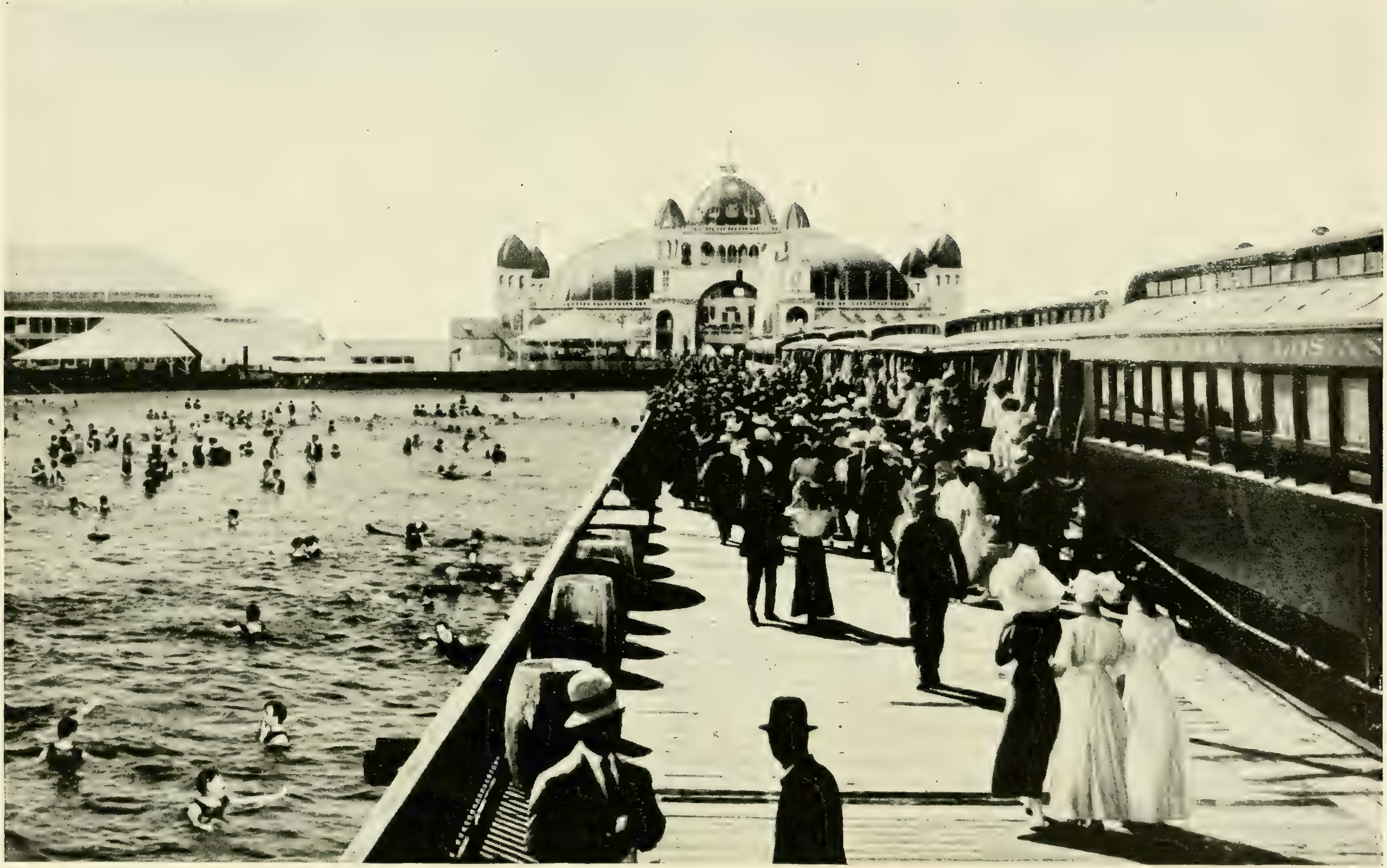
CONNECTICUT WAS ORIGINALLY QUONOKTACUT

The transition from Quonoktacut to Connecticut is an example of how Indian names suffered corruption at the hands of the white man. The word means "River Whose Water Is Driven in Waves by Tides or Winds," a typically long and descriptive title and taken from the principal river of the State, which was probably so named from the aspect near its mouth. "On Long River" and "Long River Without End" are other meanings which have been ascribed to this word.

In 1541 Hernando de Soto, the Spanish discoverer of the Mississippi, gave battle to a tribe of Indians at a place called Alibamo, on the Yazoo River, in Mississippi. This place was the fortress of a brave tribe called the Alibamons or Alabamas, who, after this battle migrated eastward to the shores of a river to which they gave their name and which in turn gave the State of Alabama its name. Some authorities give this word the meaning of "Here We Rest"; but this cannot be substantiated, the more so be-

A MOONLIGHT SCENE ON THE MISSOURI RIVER AT GREAT FALLS, MONTANA

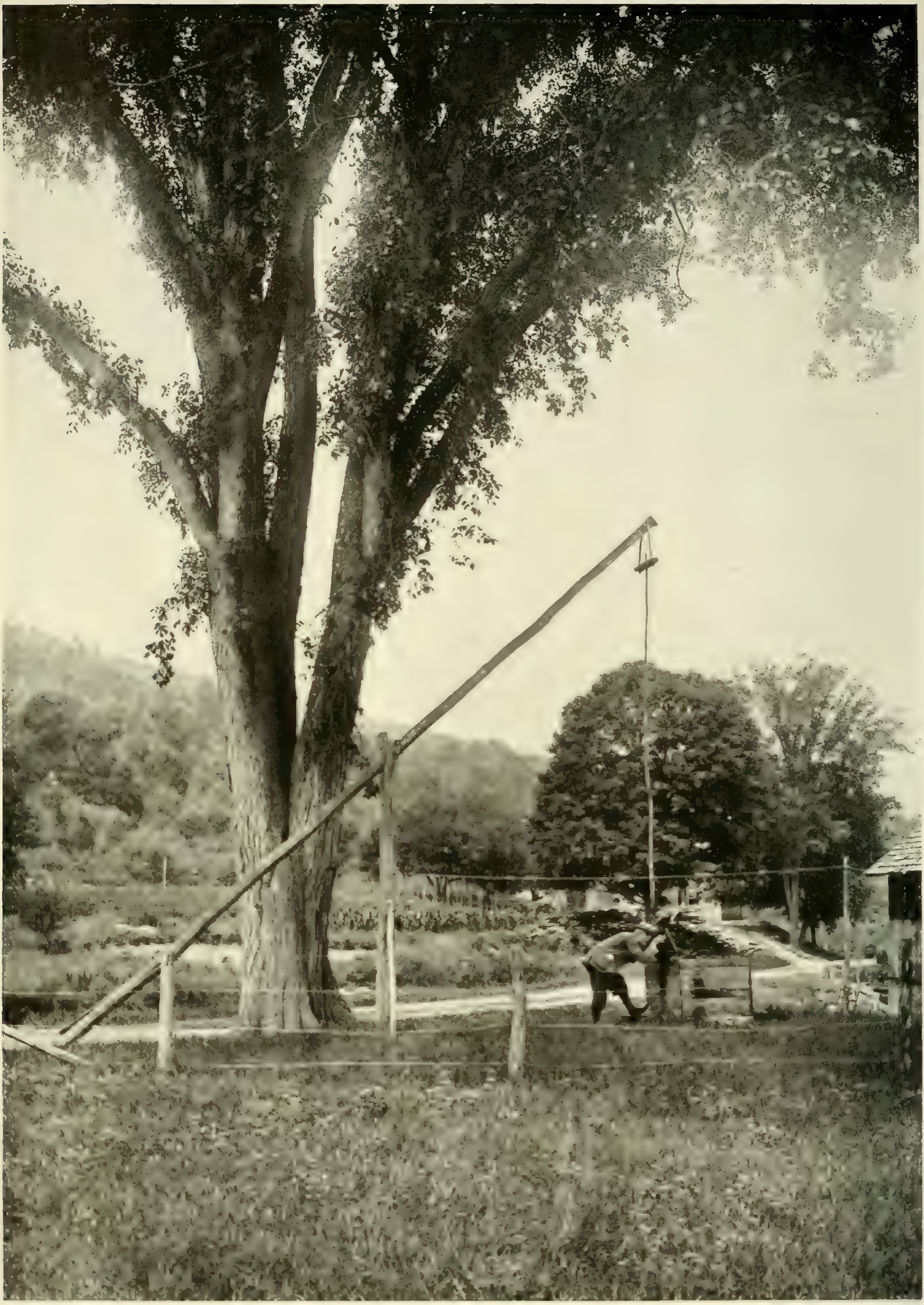
Montana is one of the six States bearing names of Spanish origin. The giant ranges and cordilleras make the word meaning "Mountainous" singularly appropriate.



Photograph by Utah Materials Company

ENJOYING SALT SEA BATHS AND BREEZES 600 MILES FROM THE OCEAN: SALT LAKE CITY, UTAH

The origin of the word "Ute," from which tribe of Indians the State of Utah gets its name, is unknown.



Photograph by Eugene S. Jones

THE OLD OAKEN BUCKET: MASSACHUSETTS

On Pond Street, in the quaint old village of Greenbush, on the South Shore of the Old Bay State, where Walnut Tree Hill slopes into the plain, is the "Old Oaken Bucket" homestead. The "well," the "deep-tangled wildwood," the mill," and the "brook" are all there, but the original bucket is in the Boston Museum.

cause the tribe of this name showed considerable proclivities for wandering.

Our greatest river, the Mississippi, gives name to one of our Southern States. The Indian word means "Gathering in of All the Waters" or "Great Long River," which have been interpreted by some to mean "Father of Waters," although this is not a technically correct translation. The Indian term for this stream would seem to indicate that the aborigines had a fair conception of its great size.

Texas, our largest Commonwealth and the only one acquired by annexation, has for a name an Indian word which originally meant "Friends" or "Allies" and which was also used as a form of greeting. Later it came to indicate a group of tribes generally allied against the Apaches of Arizona. The term gradually came to include tribes from regions as far apart as the Red River of Arkansas and the Rio Grande. The name was introduced by the early Spanish explorers, from whom later French and English settlers received it.

MEANINGS OF TENNESSEE AND KENTUCKY ARE OBSCURE

Like many other States, Tennessee is named for its principal river, although this name was originally given to one of its southerly tributaries and later spread to the main stream. The name is of Cherokee origin and came from a village or locality, Tanasse, inhabited by this great southern tribe. The meaning of the word has been lost, and interpretations, such as "Bend in the River," from the meanderings of the stream, are merely fanciful.

The Blue Grass State, Kentucky, also bears a name of uncertain origin and meaning. Reliable authorities state that the name was derived from an Indian word, "Kentake," meaning "Meadow Land." On the other hand, General George Rogers Clark, one of our greatest pioneers and one of the conquerors of this region, claimed that the word "Kentuke," meaning "River of Blood," gave the State its name. It has also been said that the word is of Shawnee Indian origin and means "At the head of a river," from the fact that this tribe used the Kentucky River in its migrations north and south. The popular translation of "Dark and Bloody Ground" was given to Daniel Boone, the famous borderer of the early days of the State, by an intelligent Indian chief of his day, and the title is supposed to have been descriptive of the bloody warfare in colonial times, not only between the Indians and the whites, but also between the Indians from both sides of the Ohio River, who used this region as a battle-ground.

The Buckeye State, Ohio, takes its name from its principal river, which bore a long Iroquois Indian name meaning "Beautiful River."

Illinois is named for the Illini tribe of Indians, who lived in that section and whose name meant "Men," and to which the French added their adjective termination, "ois."

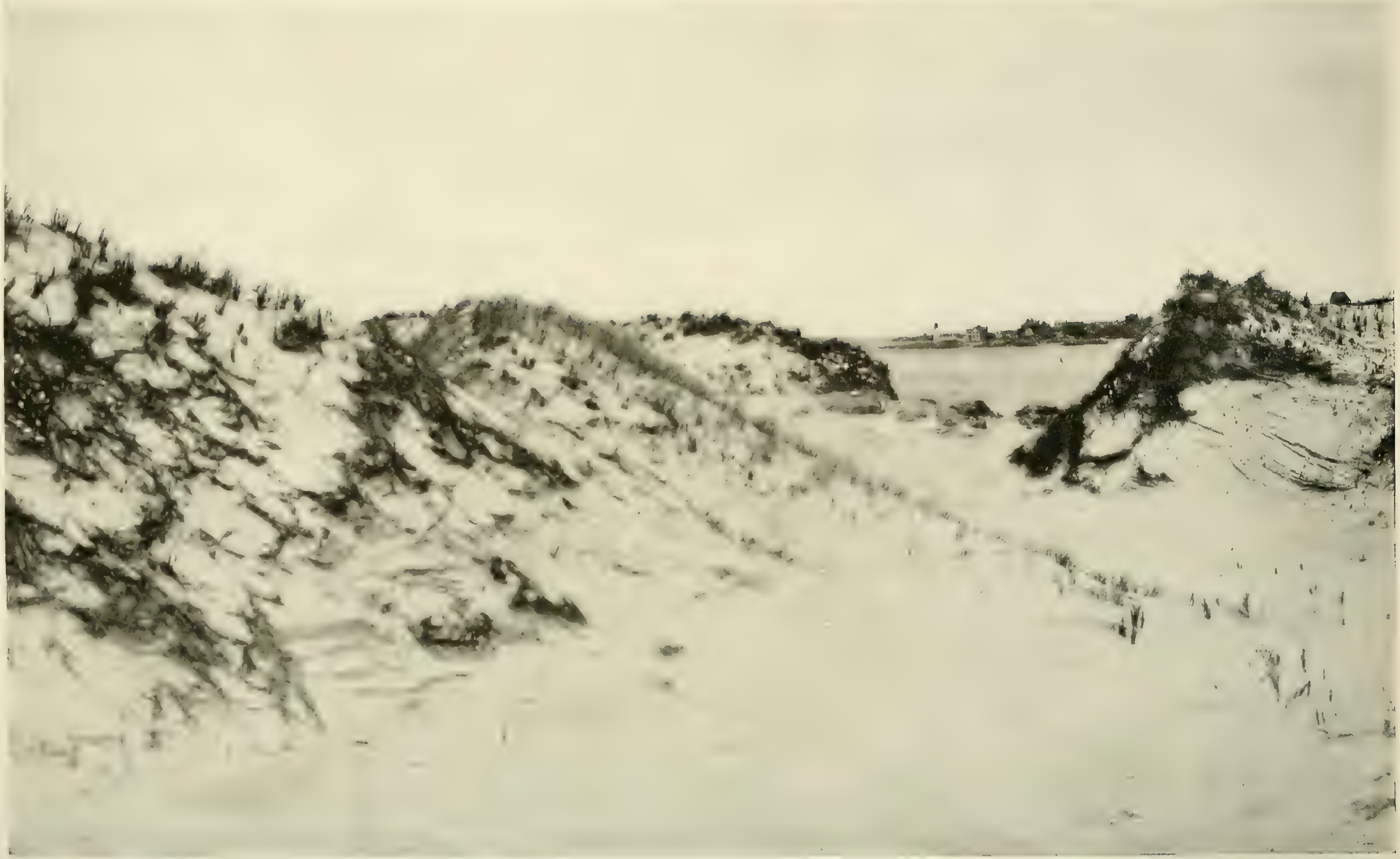
INDIANS OFTEN USED NAMES OF RIVERS AND LAKES

The name of another Indian tribe, Ah-hee-oo-ba, is perpetuated in Iowa. The name meant "Sleepy Ones" or "Drowsy Ones," and this probably goes far toward explaining why this tribe was nearly exterminated by the Sioux. Its members lived in the valley of the State's principal river, to which they gave their name and after which, in turn, the State was named.

The Indian's penchant for naming places after bodies of water is further illustrated in the name of Michigan, which comes from an Algonquin word, "Mishigamaw," meaning "Big Lake" or "Great Water," and called, of course, after the great lake of that name.

Now we come to another State name the origin and meaning of which are uncertain. Wisconsin, written by the early French explorers of that region as "Ouisconsin" and named for its chief stream, is thought to have come from a Sak Indian word translated as "Wild Rushing Channel" and also as having reference to holes in the banks of streams where birds nest. However, neither of these interpretations can be confirmed.

Another river-named State is Minnesota, derived from a Sioux Indian word meaning "Cloudy Water" or "Sky-tinted Water."



Photograph by the Phelps Studio

BREASTWORKS OF SAND THROWN UP BY THE WIND IN DEFENSE OF THE LAND AT ANNISQUAM, MASSACHUSETTS

The word "Massachusetts" means "At or near the Great Hills," and probably had reference to the heights of land around Boston, seen from the bay.

Photograph by the Phelps Studio

THE SMOKE AND ROAR OF BATTLE BETWEEN THE YIELDING WATERS AND THE ADAMANTINE ROCKS OF THE MASSACHUSETTS COAST

Massachusetts was the first of our States to bear an Indian name, derived from Massachusetts Bay; hence the nickname, "Bay State."

Photograph from N. H. Darton

ALONG THE DOCKS AT GALVESTON, TEXAS

The "Lone Star State" derives its name from an Indian word meaning "Friends" or "Allies."

Our greatest western stream gives its name to Missouri, and its yellow flow toward its mouth well merits its meaning, "Muddy Water."

The popular meaning often given to Arkansas is "Bend or Bow in the Kansas," but it is manifest that this is erroneous, for this river does not enter the State. One of the Indian tribes of that region bore this name, which was written by early French explorers as "Alkansia" or "Alkansas" and in many other forms. The meaning of the word has been lost. In 1808 certain pioneers resident in Arkansas County of Missouri Territory petitioned Congress to establish the Territory of Arkansas; hence these men are the ones who perpetuated the Indian name.

The wide plains of the Dakotas were the home of the Sioux or Dakota tribes, and this name, which, according to dialect, was also written "Lakota," "Lahkota," or "Nakota," and signifies "Allies," was used as the common name of all the confederated Sioux tribes.

The Sioux tongue also gives us Nebraska, an Otoe Sioux word meaning "Shallow Water" or "Broad Water," terms descriptive of the river for which the State is named. For the perpetuation of this name we are indebted to Secretary of War Wilkins, of President Tyler's Cabinet, who in 1844 suggested

Photograph from Publishers' Photo Service, Inc.

A PHOTOGRAPH TAKEN IN FLIGHT FROM STAMFORD, CONNECTICUT, TO MINEOLA, LONG ISLAND

The Nutmeg State derives its Indian name from Quonoktacut, which the aborigines called the river now known as the Connecticut.

that the Nebraska River (now known as the Platte) would furnish a suitable name for the territory then being formed.

The State of Kansas was named for an Indian tribe which inhabited that region and lived along the river to which it gave its name. The Kansas or Kanza Indians were of the Sioux family and their name means "Wind People" or "People of the South Wind."

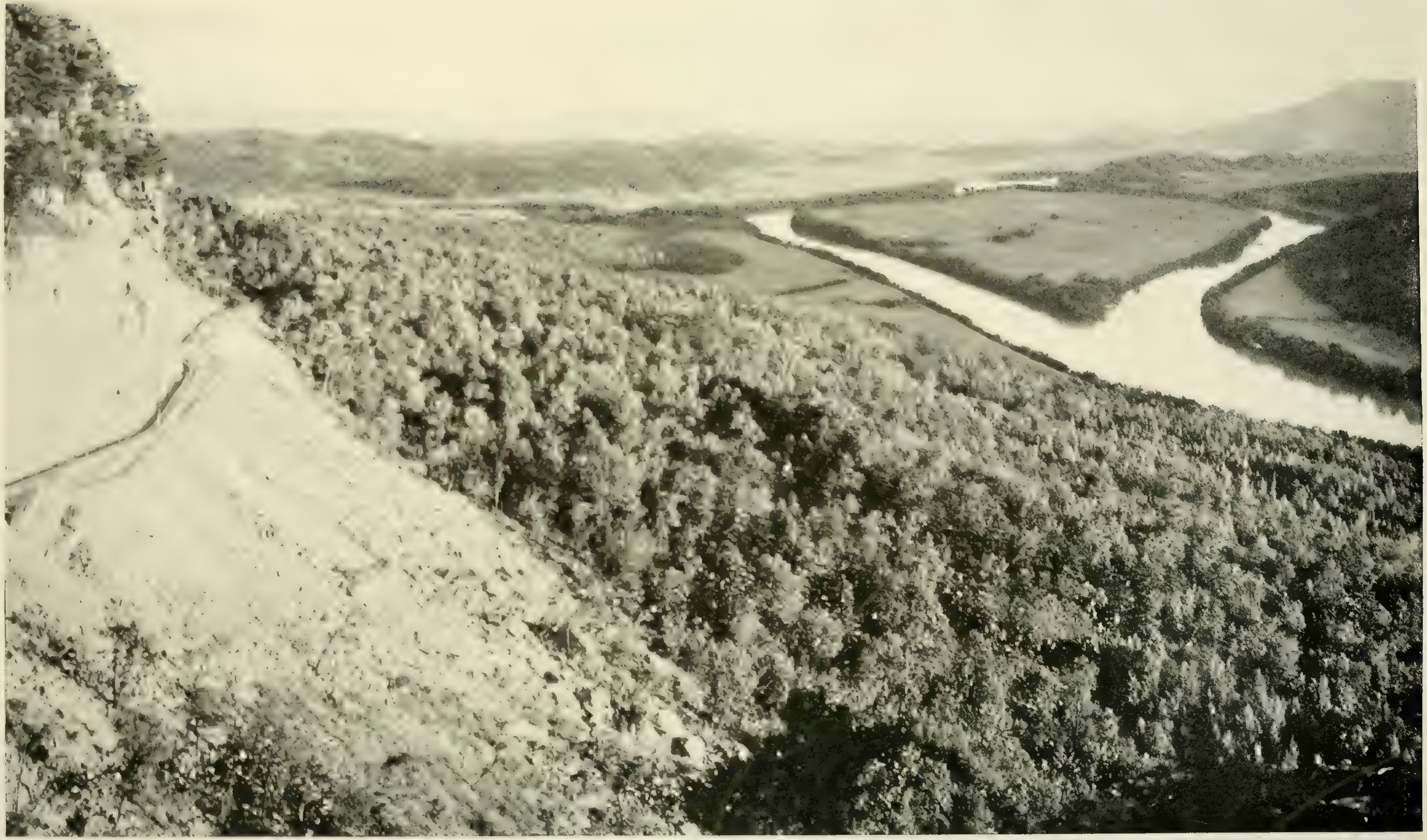
Oklahoma also bears a tribal name, taken from the Choctaw tongue. It has the peculiarly significant meaning of "Red People."

WYOMING'S NAME ORIGINATED IN PENNSYLVANIA

It is a strange fact that a valley in Pennsylvania, famed for a Revolutionary massacre, and a far western State should bear the same name; yet the latter is named for the former. Two meanings, both well supported by competent authorities, have been given to the word Wyoming. One is that it is a corruption of a Delaware or Leni-Lenape word, "Maugh-wau-wama," meaning "Extensive Plains." The other interpretation which has been put upon it is "Mountains with Valleys Alternating." Both of these meanings could be fittingly applied to the State of Wyoming.

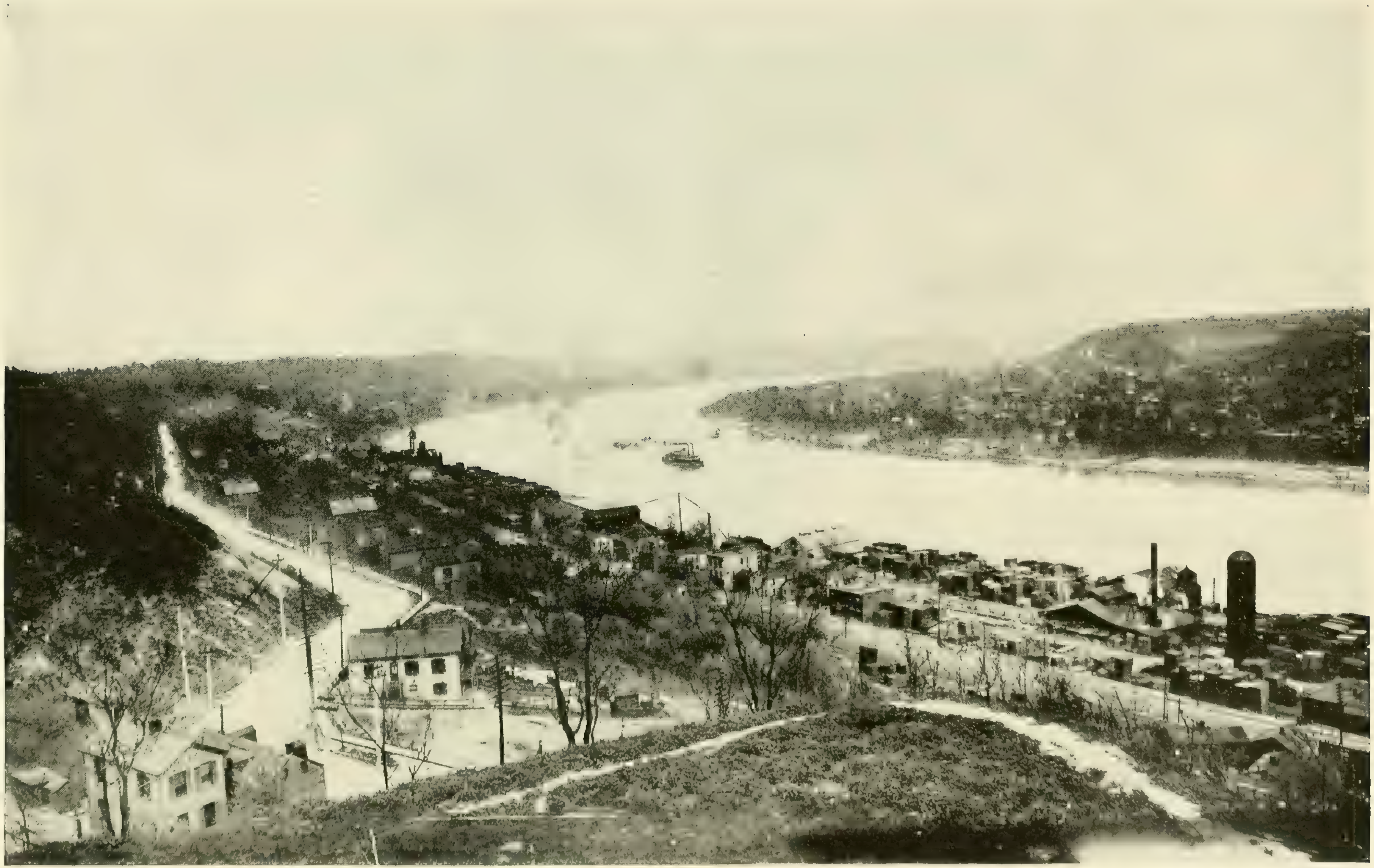
One of the most highly civilized Indian tribes in the history of the New World, the Aztecs, has given us a State name, for our southern neighbor derives her name from the word "Mexitli," an Aztec tutelary divinity; hence New Mexico. Another meaning given to this word is "Habitation of the God of War."

A small southwestern tribe, the Papagos, a peaceful people and sadly harassed by the warlike Apaches, gives us the name of Arizona. It is taken from a



TENNESSEE, LIKE MANY OTHER STATES, TAKES ITS NAME FROM ITS PRINCIPAL RIVER

A charming view of the Tennessee River as seen from Signal Mountain. At the extreme right is Lookout Mountain. Tennessee is a name of Cherokee origin and came from a village, Tanasse, inhabited by this great southern tribe of Indians.



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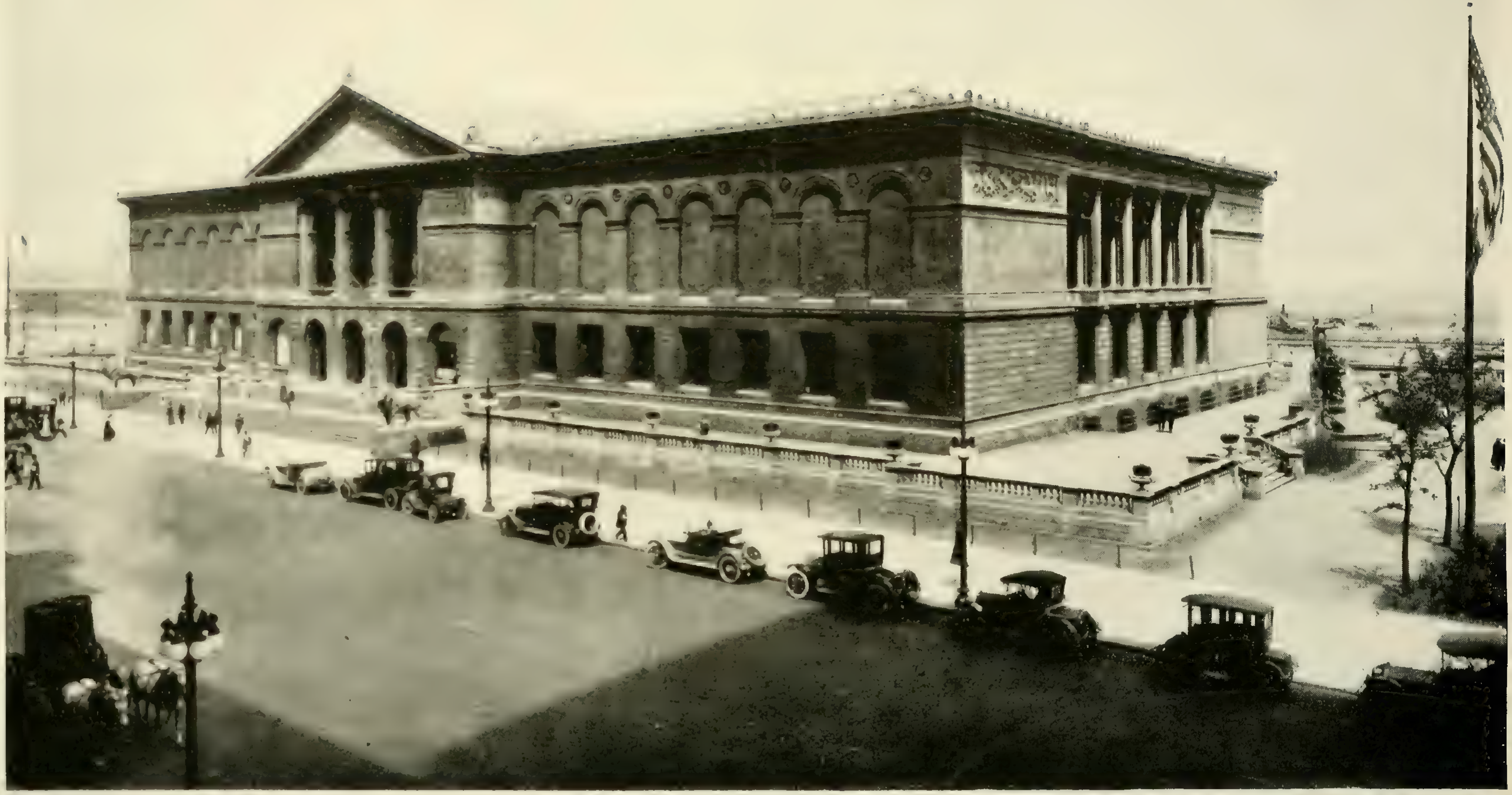
A VIEW OF THE OHIO RIVER FROM ONE OF CINCINNATI'S BLUFFS

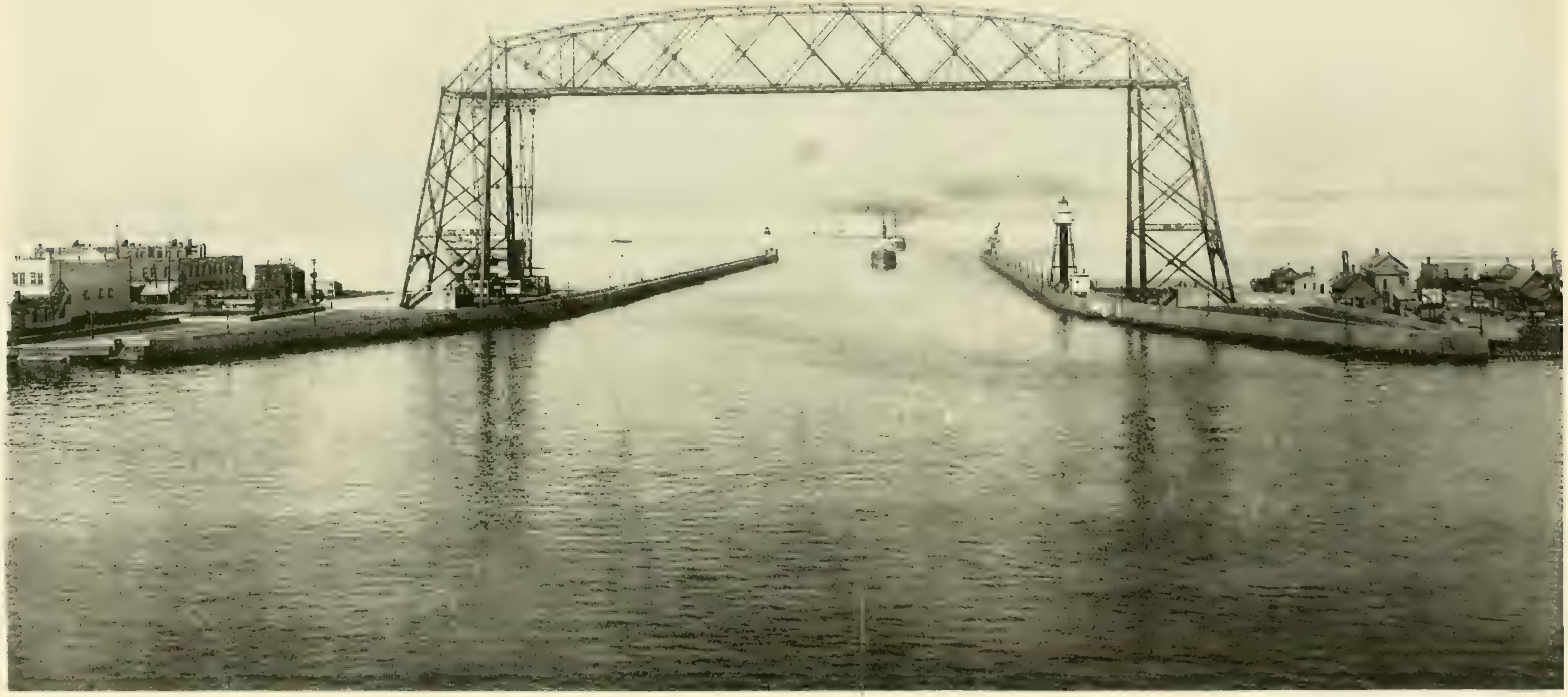
The Buckeye State takes its name from its principal river, which once bore a long Indian name meaning "Beautiful River."



Photograph from the Chicago Architectural Photo Company

THE ART INSTITUTE, CHICAGO, ILLINOIS

Illinois has two sobriquets the "Prairie State" and the "Sucker State." Its name is of Indian origin, being taken from the Illini tribe, meaning "men," to which the French added their termination, "ois."



Photograph by L. P. Gallagher

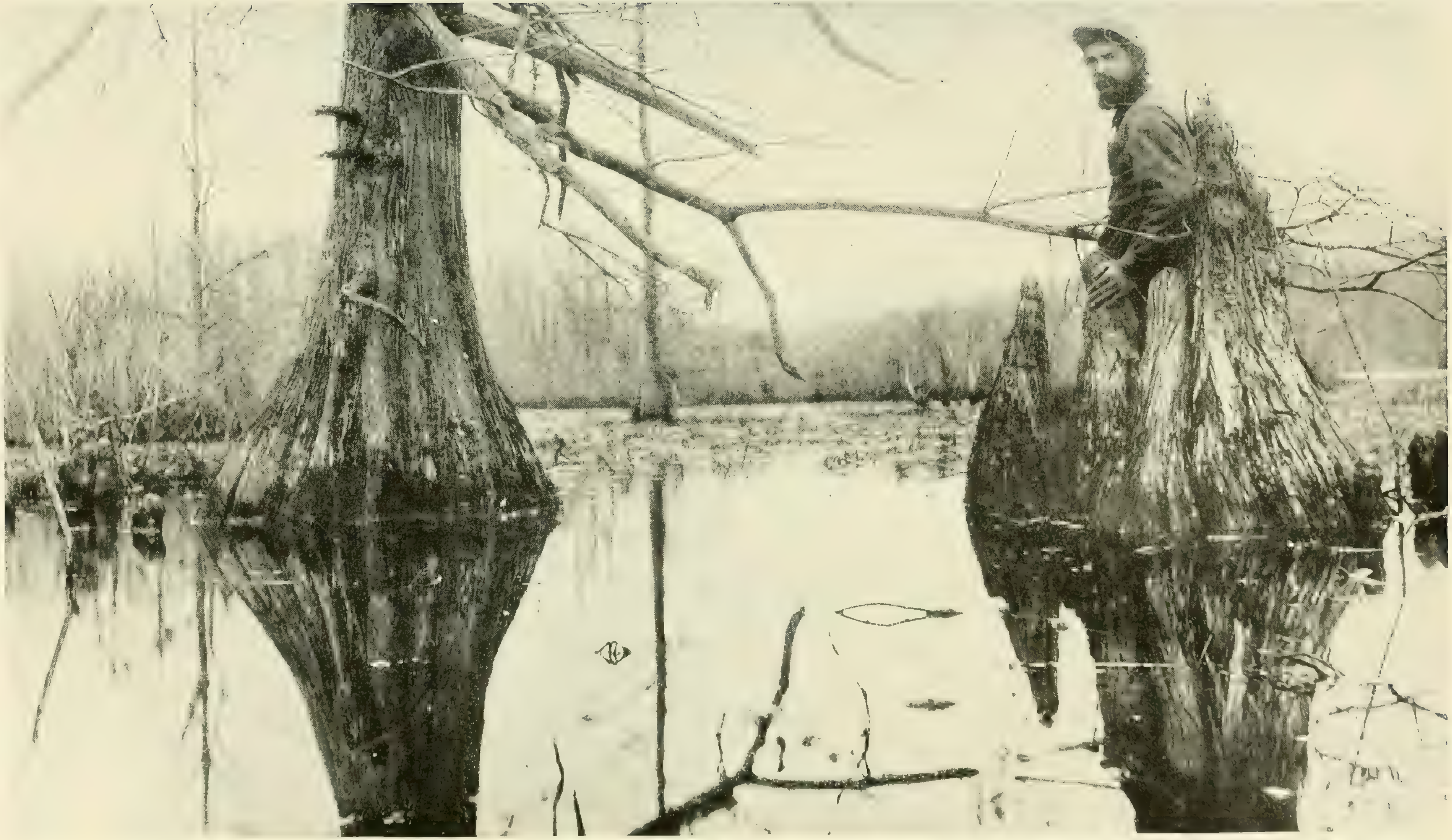
LOOKING OUT INTO LAKE SUPERIOR THROUGH THE ENTRANCE TO THE HARBOR OF DULUTH, MINNESOTA

The "Gopher State," whose motto is "Star of the North" (L'etoile du nord), has a name of Sioux Indian origin, meaning 'Cloudy water" or "Sky tinted water."

Photograph by George E. Hall

A MISSOURI HAMLET NEAR THE FOOT OF THE OZARK MOUNTAINS

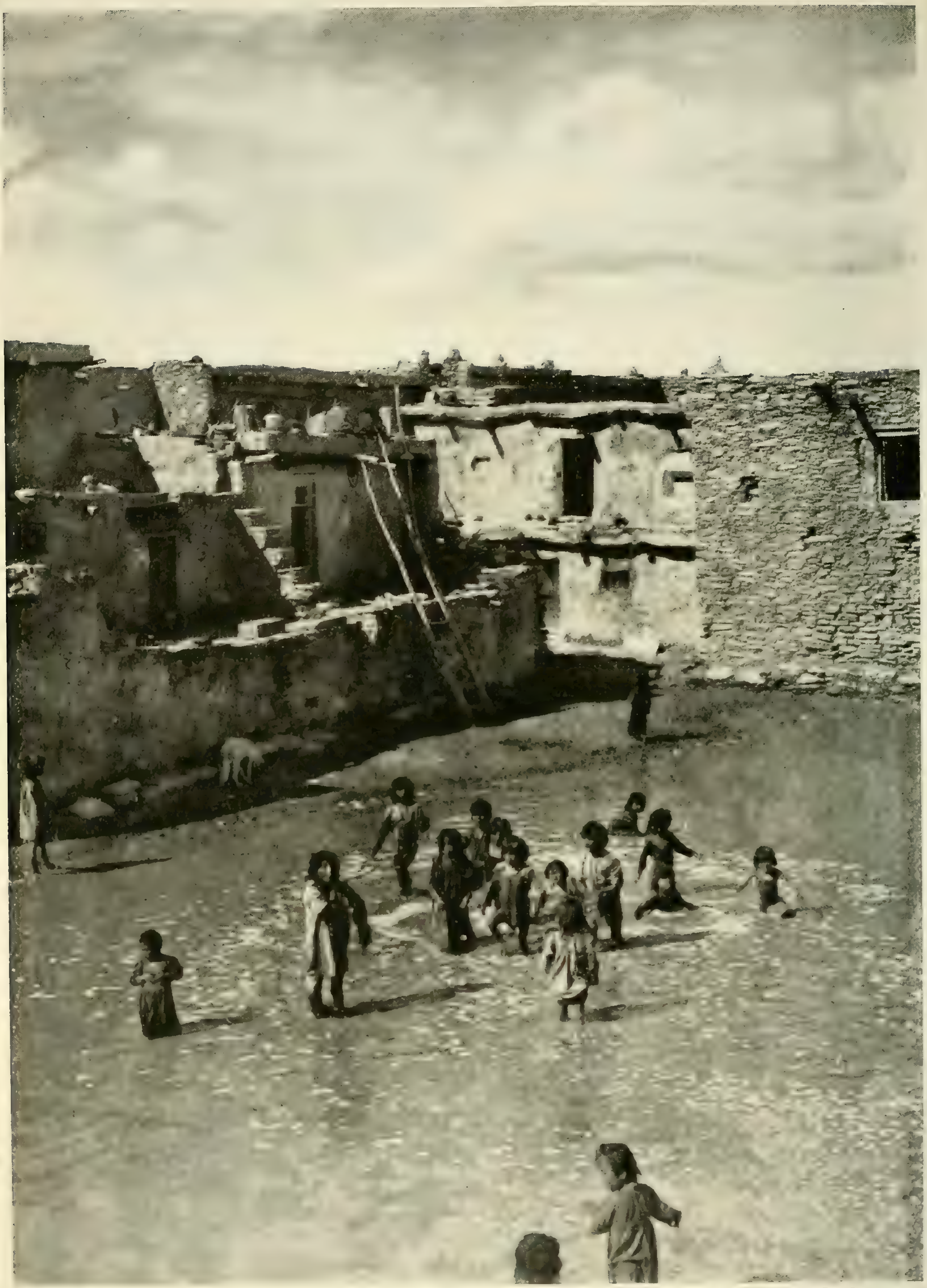
"Muddy Water" is the English equivalent of the Indian word Missouri, the river which lends its name to the State.



Photograph from U. S. Forest Service

BALD CYPRESS AND A GROUP OF "KNEES": ST. FRANCIS RIVER, ARKANSAS

This peculiar species of cypress, found in the southern United States and Mexico, grows in low-lying lands. It sends out its great roots for a considerable distance; then these roots send up "knees," as they are called, which serve as "breathing organs." Known in popular parlance as the Bear State, Arkansas derives its name from that of an Indian tribe, Alkansia or Alkansas.



Photograph by Frederick I. Monsen

INDIAN CHILDREN PLAYING IN A POOL AT ORAIBI, ARIZONA

According to most authorities, the State name, "Arizona," is derived from an Indian word meaning "Place of the Small Springs." Others trace its origin to the Aztec word Arizuma, meaning "silver-bearing."

Photograph from George R. King

A LUMBER CART IN THE ZUNI MOUNTAINS OF NEW MEXICO

"Habitation of the God of War" is one of the fanciful meanings given to the name New Mexico, which is derived from that of our neighbor republic on the south. New Mexico's motto suggests a snowball—*Crescit eundo* (It increases by going).

former locality of theirs called "Arizonac" or "Arizonaca," meaning "Place of the Small Springs." It was located a few miles from the present town of Nogales, where, in about 1737, some celebrated nuggets of silver were found. The word has no connection with the meaning, "arid zone," sometimes given it.

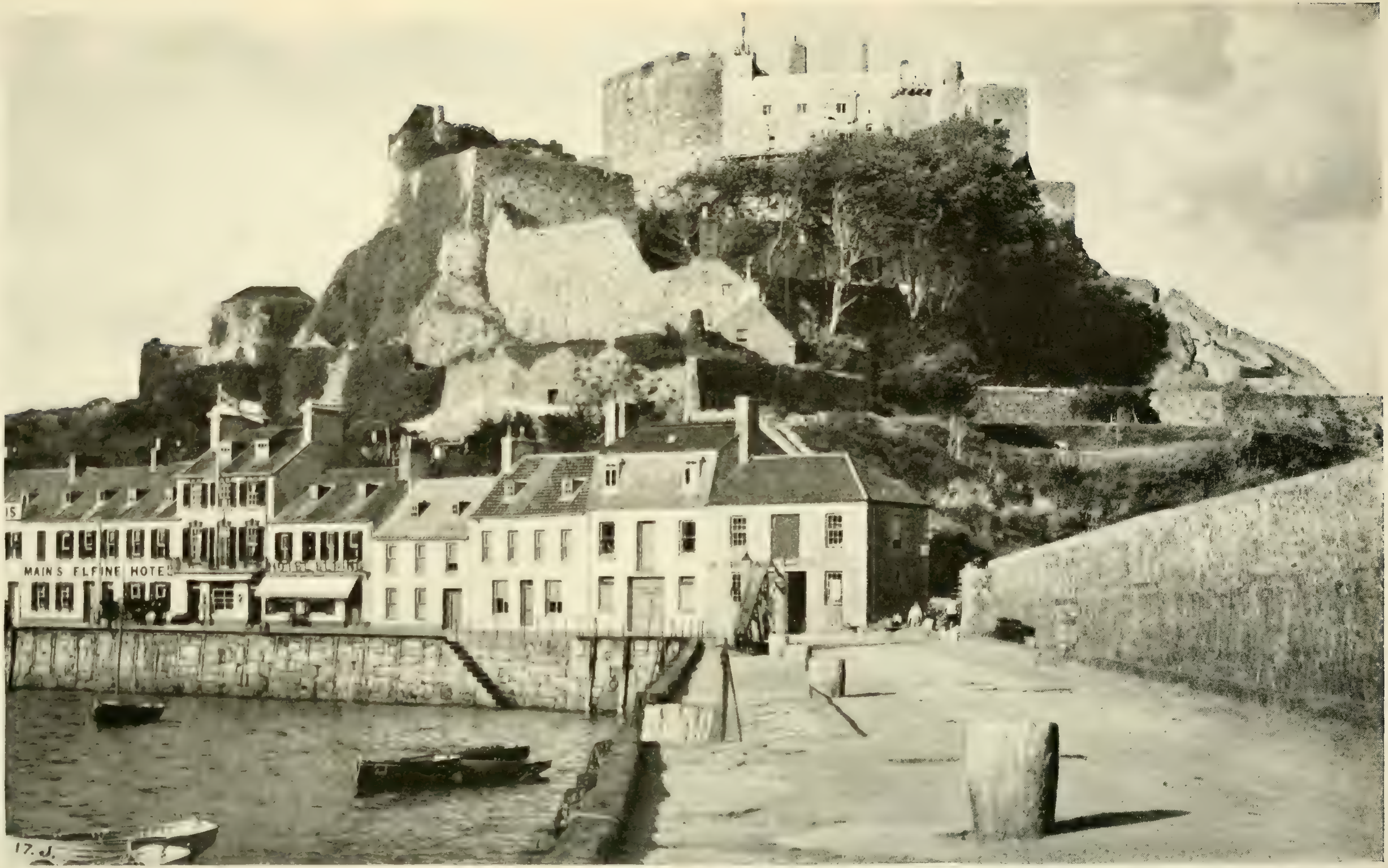
The Mormon State, Utah, takes its name from the Ute tribe of Indians, who lived in that section. The origin of the name is unknown.

Idaho is named from an Indian word meaning "Gem of the Mountains"—a most descriptive title for that highland State.

ELEVEN STATES NAMED FOR INDIVIDUALS

It may be of interest to note the various groups into which our State names divide themselves. Eleven were named for individuals, eight for rivers and lakes, five for mountains, six for other natural features, six for various Indian peoples, four for Indian words, five for other lands, and one for a holy day, while two are of unknown origin.

It is to be regretted that our earlier explorers have not been honored in our State names. Columbus, de Soto, Ponce de Leon, La Salle, Marquette, Lewis and Clark, and others might appropriately have States named for them rather than obscure and little-known Indian tribes and English and French sovereigns, who, although we may respect their memory, mean little to us today. And yet, might not Indian terms have been employed in State names with more discretion than they were and with a more fitting sense of the regions named? Penobscot or Kennebec would make better State names than Maine, Chesapeake than Virginia, Potomac than Maryland, and Catawba than the Carolinas. The case of Kanawha *versus* West Virginia has already been noted. Would not Yosemite have been a better State name than California, and might not Oregon better have been named Columbia, thus having both



Photograph by E. F. Guiton

MONT ORGUEIL, ONE OF THE MOST IMPORTANT OF THE INSULAR CASTLES, DATES FROM THE TIME OF THE EARLY PLANTAGENETS: JERSEY

At the time of the establishment of these strongholds, the Channel Islands were divided into great fiefs, both religious and secular, and the seigneurs of the manors, both Norman abbots and Norman knights, were bound by the double service of executing the king's justice and providing armed retainers to defend their lands against the king's enemies. The highest point of this castle is 300 feet above the sea.

the State and its principal river perpetuate the name of the discoverer of the continent?

The "New's," "West's," "North's," and "South's" with which many of our State names are prefixed are inappropriate and would seem to indicate a lack of imagination in naming the various regions. In place of these titles, such representative and well-known Indian names as Yemansee, Adirondack, Alleghany, Monongahela, Altamaha, Miami, Snohomish, Yakima, Tacoma, and many other river and mountain names might have been fittingly used to designate some of our States.

In conclusion, let it be said that it is possible the meaning ascribed to the names of some of the States may be inaccurate. This is chiefly owing to the fact that many of the States were named before the days of historical societies, and in some cases the only sources of information are old letters, crude maps, and Indian legends.

THE CHANNEL ISLANDS

Bits of France Picked Up by England, Whose History is Linked with That of America

By Edith Carey

VICTOR HUGO has called the Channel Islands "Bits of France fallen into the sea and picked up by England." Geographically and racially he was right, but "Morceaux de France" politically they never have been; and Englishmen should realize that while their Spanish fellow-subjects in Gibraltar, their Italian fellow-subjects in Malta, and their French fellow-subjects in Quebec bear witness to England's conquests, their fellow-subjects in the Channel Islands remind them that they themselves have been conquered. And although India, Africa, Canada, and Australia may tell of England's valor and England's enterprise, yet Jersey, Guernsey, Alderney, and Sark—yes, even Herm and Jethou—tell us far more of England's history.

In these islands archæologists will find records of the past dating almost from the very beginnings of the human race.

SECRETS OF THE PAST REVEALED IN JERSEY'S CAVES

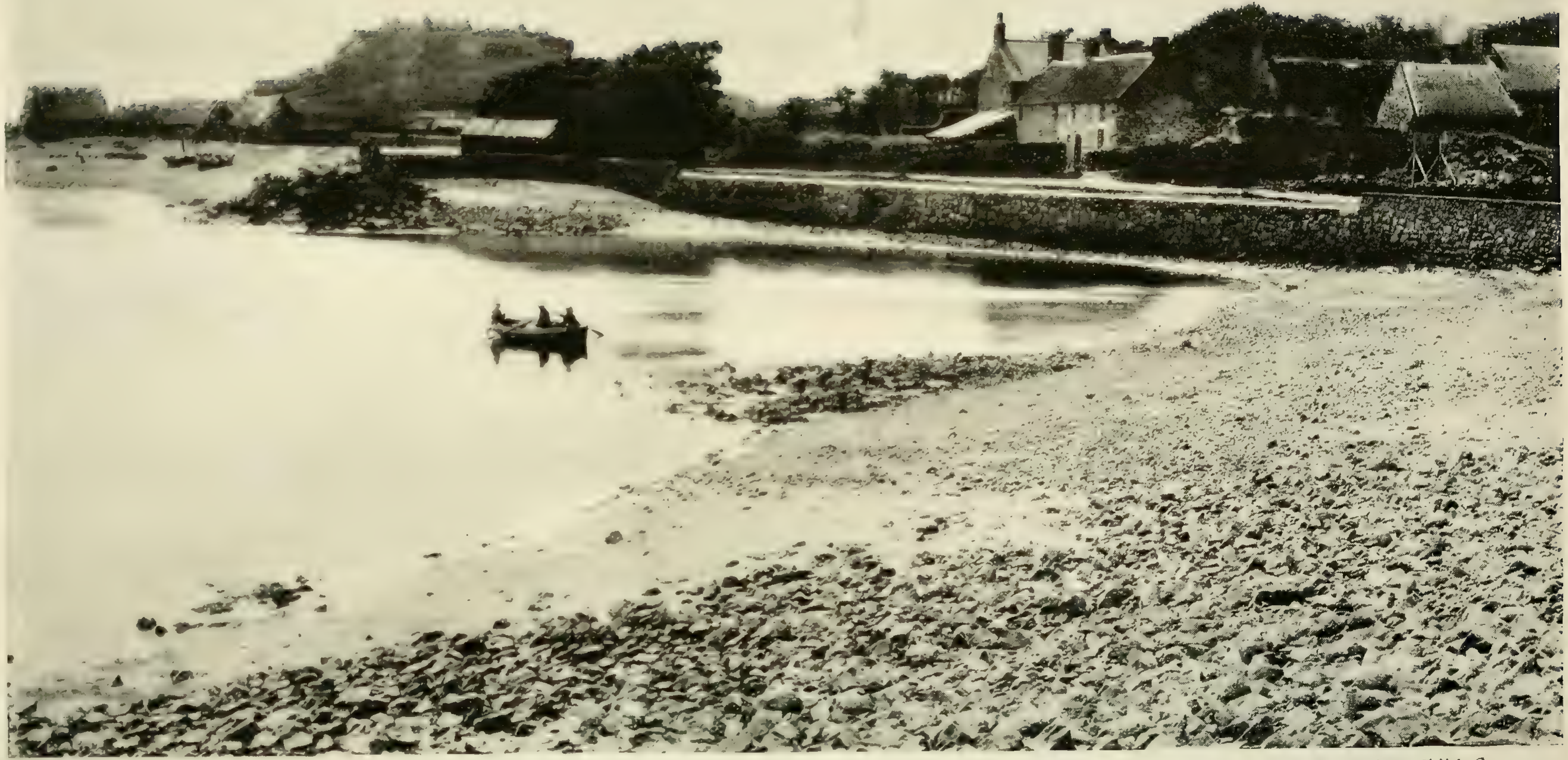
In Jersey are two Mousterian caves. The one at La Cotte Ste. Brelade has been opened recently and is now being excavated. Its remains prove that the primitive mammoth (*Elephas trogontherii*), the great Irish elk, the reindeer, the cave hyena, the wolf, and the woolly rhinoceros roamed these shores, which were then attached to the mainland, while dolmens and menhirs in each of the islands, "gray, recumbent tombs of the dead in desert places," bear witness to the existence here of Neolithic Man at least seventeen thousand years ago.

In spite of the fact that Breton saints introduced Christianity into the islands as early as the sixth century, heathen beliefs and practices long continued.

HAUNTS OF WITCHES IN THE ISLANDS

Paganism, unlike more developed forms of religion, had its strength in local traditions and associations, in holy places—wells, trees, and hills—charged with mysterious potencies; and to this day various dolmens and caverns, the Roque Berg and Roche à la Fée in Jersey, the Catioroc, Creux des Fées, and Mont Saint in Guernsey, are known to every Channel Islander as the haunts of witches and evil spirits and the erstwhile abode of fairies. The waters of the "wishing well" of Saint George in Guernsey are still looked upon as magically curative.

Among the distinctive charms of the islands are the dim memories of past races—devil worshippers and sorcerers—which still linger, old traditions of days when "shapes that coiled in the woods



Photograph from Edith Carey

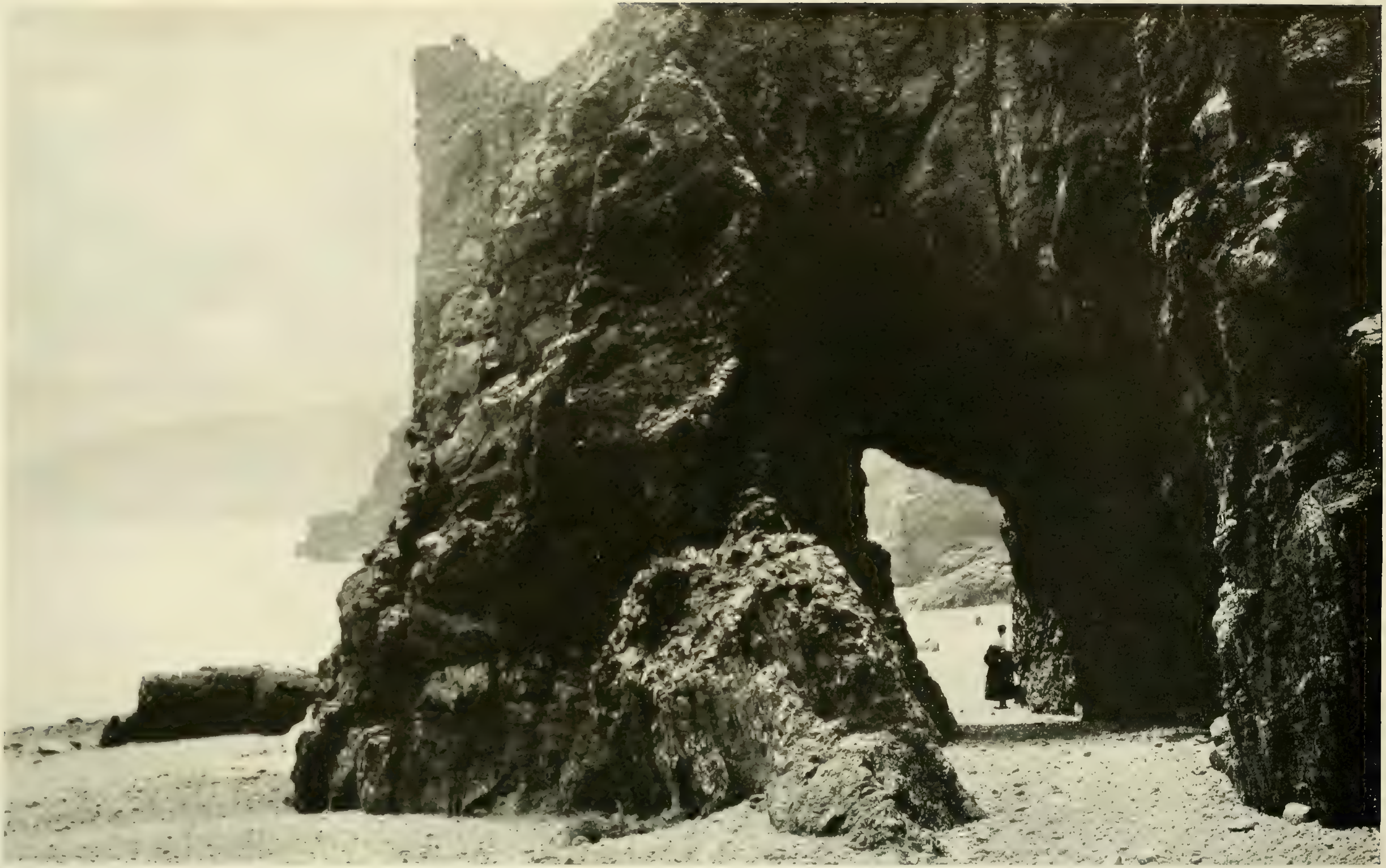
BORDEAUX HARBOR, OVER WHICH WATCHES THE FAMOUS VALE CASTLE: GUERNSEY

Vale Castle was built by a group of warrior-monks to protect the natives of northern Guernsey from the ravages of pirates.

Photograph from Edith Carey

ALDERNEY IS SURROUNDED BY THE MOST DANGEROUS CURRENTS AND THE WILDEST SEAS IN THE ENGLISH CHANNEL

Before the days of aircraft and submarine, Alderney was called the "Key of the Channel," which accounts for the extensive fortifications to be found on the island, most of them now obsolete. Seven miles west of Alderney lie the dreaded Casquet rocks, where many ships have been wrecked, including the *Victory*, which went ashore in 1755 with 1,100 men on board.



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THE PICTURESQUE NATURAL ARCHWAY ON THE SOUTH SIDE OF DIXCART BAY, ISLAND OF SARK

Surrounded by cliffs, this sandy bay is one of the prettiest and most frequently visited parts of the island of Sark.

and waters" were worshipped on altars of stone, or by magic wells in sacred groves, or "high places," as the Bible calls them.

In spite of persecutions of church and state, these old worships endured; witches and warlocks used to meet at cross-roads or at so-called "Druidic" remains and perform secret rites and ceremonies, which, though degraded and perverted after so many centuries of use, undoubtedly were survivals of obsolete faiths and primitive cults.

A WOMAN CONDEMNED FOR WITCHCRAFT ONLY SIX YEARS AGO

The Puritans of the sixteenth and seventeenth centuries did their best to extinguish these practices, and the records at the Guernsey Greffe show that in that island alone, between the years 1563 and 1639, 20 men and 71 women were imprisoned, banished, or burnt alive in the market-place for witchcraft and sorcery. That these beliefs even now are not extinct is proved by the fact that, as late as January 29, 1914, a woman was tried and condemned by the Guernsey Royal Court for "fortune-telling and witchcraft."

In Jersey and Guernsey these reminders of Stone and Bronze Age cults are supplemented by the more tangible collections of stone axes and implements, of Neolithic pottery, of bronze and iron swords, and by Jersey's golden torque, to be seen in the Museum of the Société Jersiaise at Saint Helier and in the Lukis Museum in Saint Peter Port. There also can be seen evidences of successive Gaulish and Roman occupations in a nearly perfect series of coins unearthed at different periods in the four larger islands.

THE NORMANS ORIGINATED OUR COURTS

It is not until the tenth century A. D. that we discover written records directly dealing with English history; and then we find that hordes of pirates from the far north swept down upon the unprotected islands, burning, pillaging, and conquering, and from the churches the despairing prayer went up: "From the fury of the Normans, Good Lord deliver us!"

It is to these Normans we can ascribe the foundations of our local courts. Their in the open air and presided over by a tribal king who was also the priest of the gods.

There is evidence that originally all our feudal courts were held in the open air, either near sacred stones, or wells, or other consecrated sites. In Guernsey some of the smaller feudal courts still assemble at the same spots, and their officers—senechal, greffier, and vavasseurs—still swear with uplifted hand to be faithful vassals to their liege lord.

Among the enduring monuments of the Northmen are the "hougues," or artificial mounds of earth which they raised over their dead chieftains.

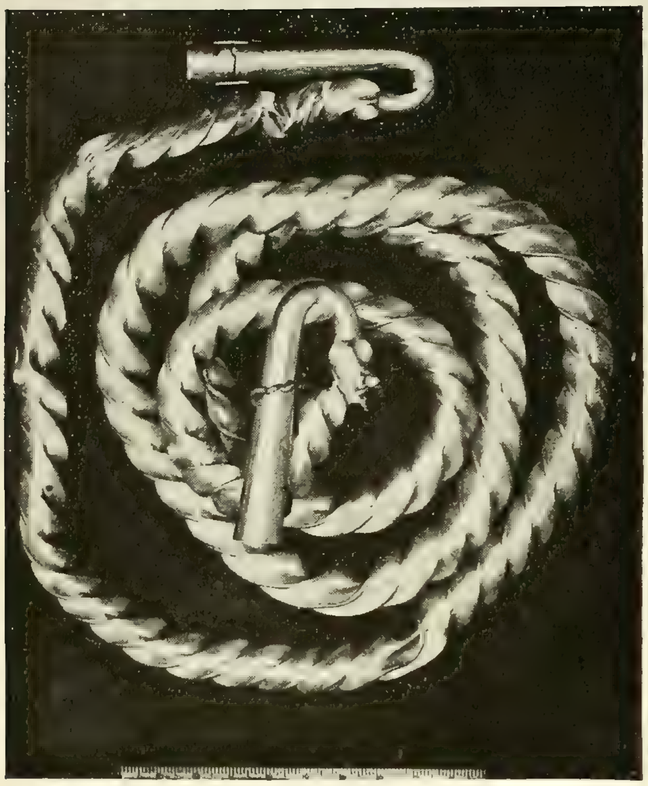
HOW THE DUCHY OF NORMANDY WAS CREATED

By the treaty of Saint Clair-sur-Epte, dating from the first quarter of the tenth century, Charles the Simple of France granted to the Scandinavian Jarl Rollo, King George's famous ancestor, the land, including the Channel Islands, situated "on the seacoasts of the Bretons"; and thus the Duchy of Normandy came into being.

Later documents show that in 1066, when the soldiers of William, Duke of Normandy, marched in triumph (the last alien enemies to do so) through London streets, the islands were already divided into parishes; churches had been endowed and built; the Norman language, laws, and customs were well established: Grosney Castle in Jersey and the Château des Marais in Guernsey were in existence, and Norman abbots and barons practically divided the land and wealth of the islands between them.

This connection with Normandy lasted unimpaired up to the days of King John, until the year 1204, when continental Normandy was lost to him forever. After that date, although the islands politically belonged to England, yet their language, their laws, and their customs remained as before and have continued, with very little alteration, to this day.

For instance, the "Clameur de Haro," which was abolished in Normandy in 1583, can still be, and occasionally is, resorted to by any Channel Islander who thinks his property encroached upon or



Photograph by E. F. Guiton

GOLD TORQUE FOUND IN THE SAND AT SAINT HELIER, JERSEY

This twisted neck chain is one of many reminders of Roman and Gaulish occupation of the Channel Islands.

his rights infringed by the action of another.

A PICTURESQUE MEDIEVAL CUSTOM

The procedure is as follows:

In the presence of two witnesses, generally the constables of the parish, the plaintiff, while kneeling on the ground, cries: "Haro! Haro! Haro! à l'aide mon Prince! on me fait tort!" and then he repeats the Lord's Prayer in French. This is considered tantamount to an injunction to stay proceedings until the case is tried before the Royal Court.

Antiquaries are divided as to whether "Ha Ro" implies Ha Rollo, Normandy's first duke, and therefore the prince whose aid is invoked, or whether it is a survival of an even older custom which was in common use in Neustria long before the Norman invasion by Rollo and his Northmen. If the latter be the explanation, the word "haro" is derived from the Frankish verb *haran*, to shout, and is thus nearly akin to the English word "hurrah."

Norman in race, in language, and in laws, it can be imagined what a wrench it must have been to the islanders to be forcibly severed from Normandy. Many of the feudal lords, who held land both on the mainland and in the islands, took the side of the French king, and therefore their lands in the islands escheated to the King of England and formed the Fief le Roi, for which His Majesty still appoints a receiver general in each bailiwick to collect his feudal rents, and these are still paid, either in "quarters" of corn or their equivalent in money, for his "rents," or in fowls for his "poulage."

But among the Norman nobles the de Carterets, then among the largest landowners in Jersey, and Pierre de Préaux, governor of all the islands, remained faithful to England. The latter contrived that these islands, alone of all King John's continental possessions, should remain English, and they were ratified to the Crown of England by the Treaty of Westminster of 1259, which was again confirmed by the Treaty of Bretigny of 1360.

THE CHANNEL ISLANDS HAVE NEVER BEEN UNDER THE FRENCH CROWN

So the Channel Islands have never passed under the Crown of France, but have been inherited continuously by the kings of England as successors of the dukes of Normandy, in spite of continual invasions by the French.

The islanders from time to time secured charters exempting them from taxation without their consent, and which granted them the privilege of free trade with England, of local jurisdiction in all matters civil and criminal, and security from the encroachments of English law.

In spite of the political separation of the islands from Normandy in 1204, ecclesiastically they still remained in the Norman See of Coutances until the Reformation. It was not until 1568 that they were legally transferred to the diocese of Winchester.

But the Protestantism of the islanders was founded on Calvinism and was quite unconnected with the Church of England. It was not until 1620 in Jersey and 1660 in Guernsey that Episcopalianism was, with great difficulty, established and the Book of Common Prayer officially came into use.

Up to the era of the English civil wars, the political and social history of the islands ran on practically parallel lines.

Many insular families owned manors and estates both in Jersey and Guernsey; and Guernsey de Beauvoirs, de Garis, de la Courts, Le Feyvres, Le Marchants, Perrins, de Vics, and Careys intermarried with Lemprières, de Carterets, de St. Martins, de Soulemonts, Du Maresqs, de la Mares, and Paynes; while in 1549 Hellier Gosselin, and in 1601 Amias de Carteret, both Jerseymen, were respectively appointed bailiffs of Guernsey.

THE GREAT CLEAVAGE

But in the seventeenth century the great cleavage between Jersey and Guernsey took place.

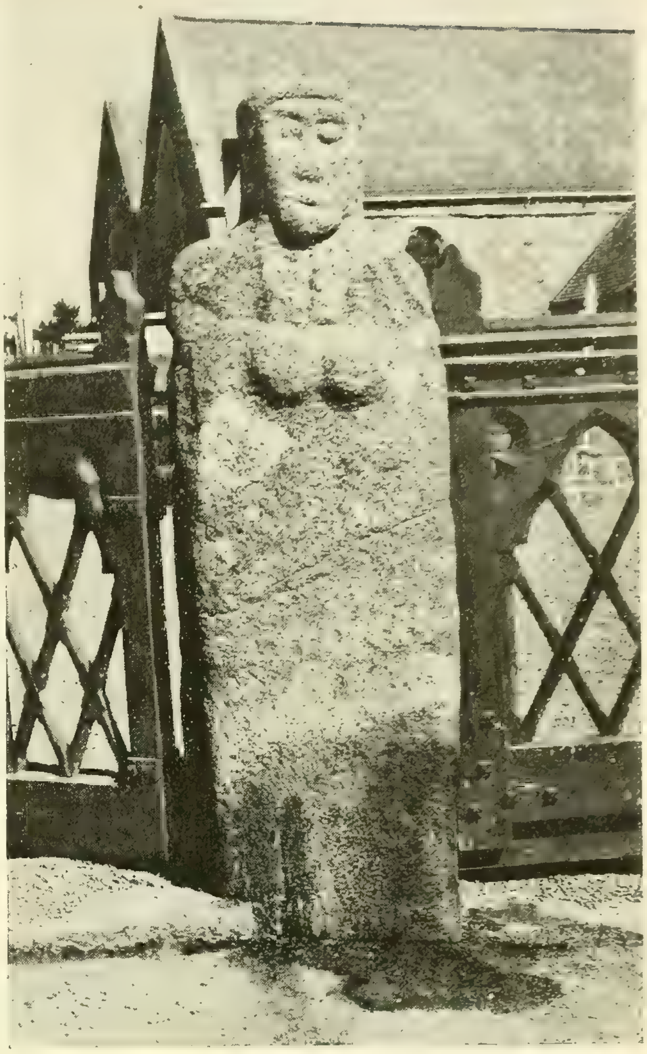
Guernsey, impelled to the popular cause by its more pronounced Presbyterianism, by the feeling of betrayal which the Stuart régime in that island had produced, and strongly influenced by three prominent islanders, Peter de Beauvoir, James de Havilland, and Peter Carey, declared for the Parliament.

Jersey, as strongly influenced by its great feudal family of de Carteret, remained loyal to the royal cause, and in 1645 the Jersey States proclaimed their continued adherence to the king.

In the following year the Prince of Wales (afterwards Charles II) sought refuge in Jersey, arriving from the Scilly Islands; and Jersey, after the execution of Charles I, was the one place in the United Kingdom to proclaim him King of England. Shortly after his proclamation he again visited the island, and was supported both with men and money by Sir George Carteret and the majority of the islanders.

Not only did the Jerseymen fit out numerous privateers to cruise against the commerce of England, but they surreptitiously provisioned and helped Castle Cornet in Guernsey, which, under its royalist governor, bombarded Saint Peter Port and for nine long years stopped all ships entering or departing from Guernsey harbor.

Although it is nearly three hundred years since Jersey and Guernsey were at open war, yet the old rancor still lingered until the World War swept away all smaller misunderstandings, and all Channel Islanders, with the rest of Britain's sons, became brothers-in-arms.



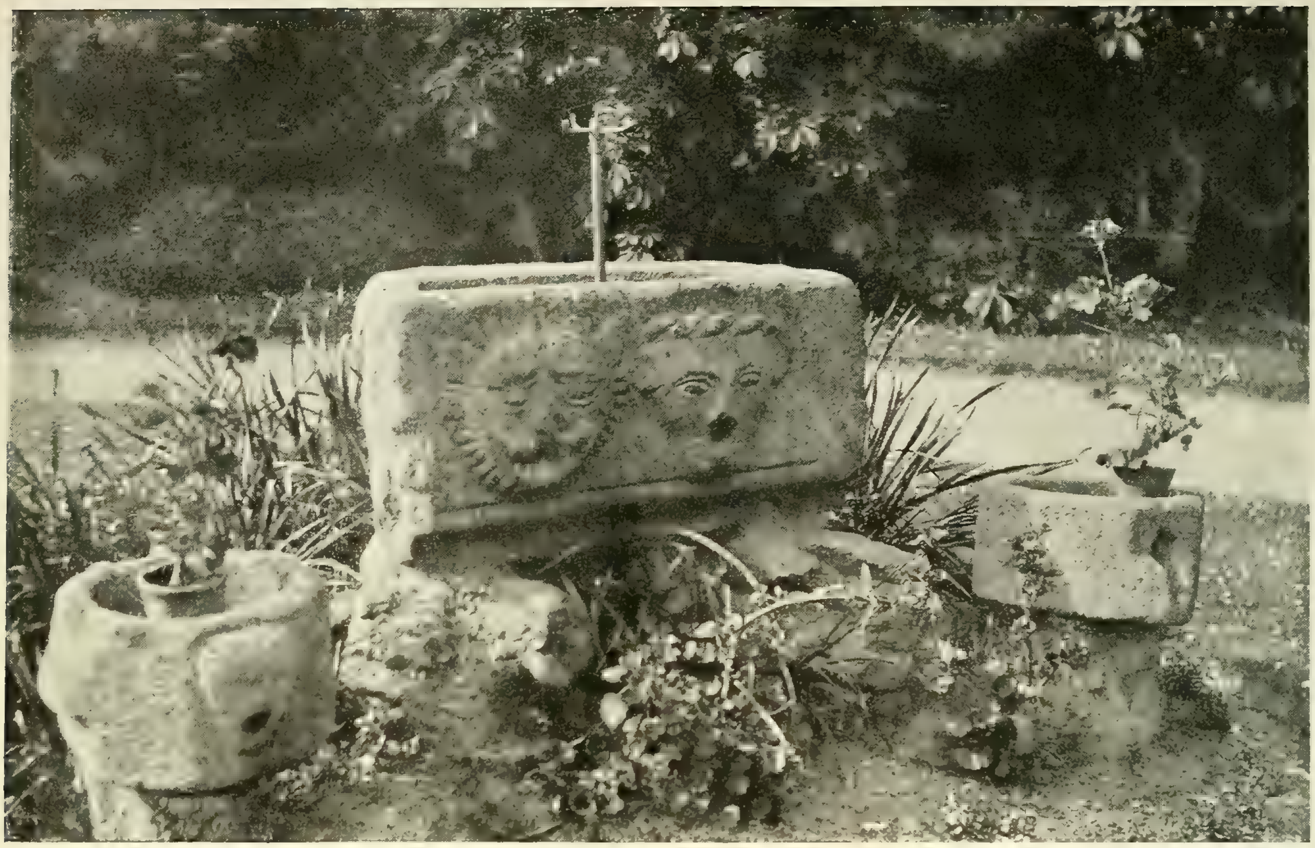
Photograph by Alfred Dobree

THIS MONOLITH WAS REVERENCED BY THE NATIVES OF GUERNSEY AS RECENTLY AS THE FIRST HALF OF THE NINETEENTH CENTURY

Note the diagonal crack across it, where it was broken in half by order of the church wardens in 1846, as it was thought that the people paid too much "superstitious reverence" to this block of granite carved into the rude representation of the head and bust of a woman. At one time a shallow stone trough, said to have been worn down by the knees of worshipers, stood in front of it.

CHARLES II GAVE THE CAROLINAS AND NEW JERSEY TO CARTERET

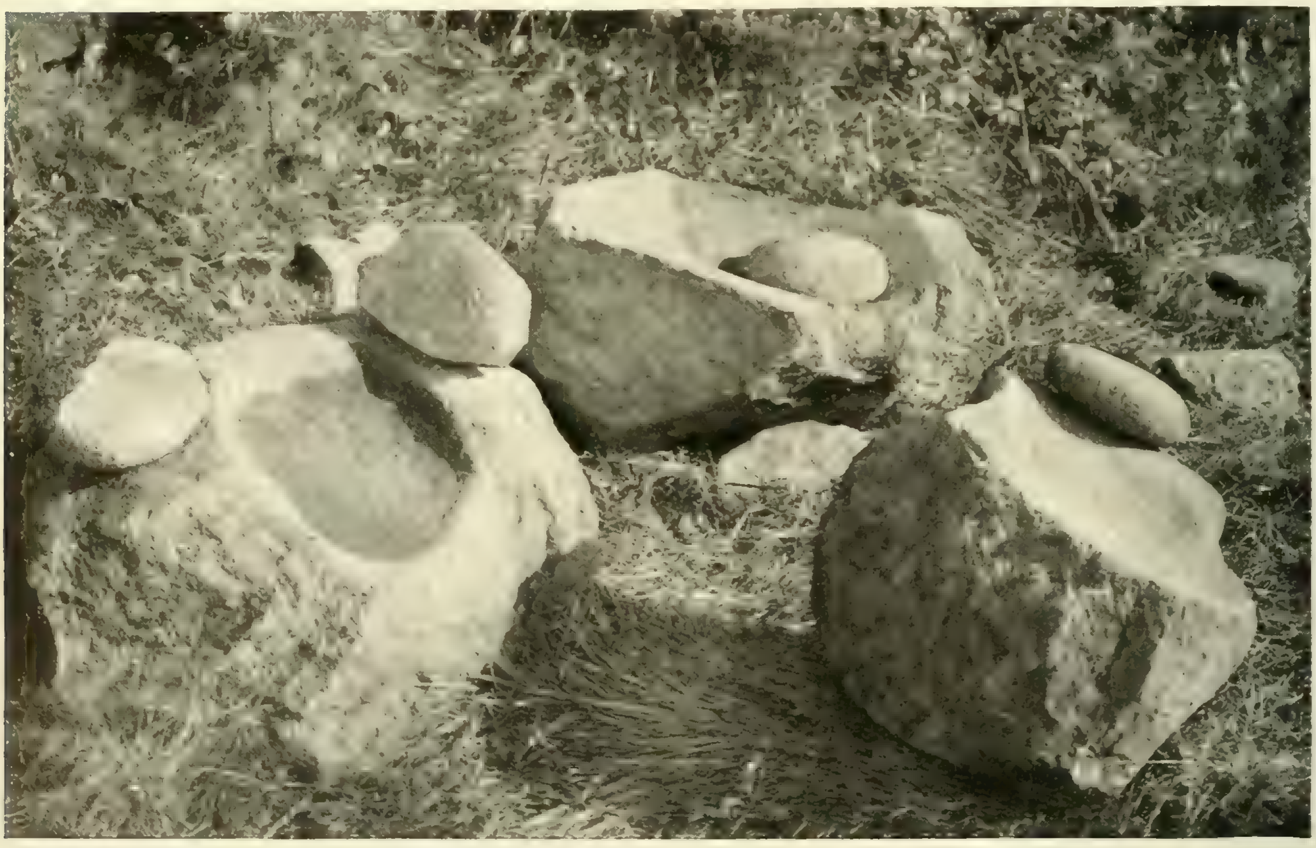
When, in 1660, Charles II was restored to the English throne, he was not ungrateful to the Island of Jersey and to the family which had so befriended him in his exile. He presented the Jersey States with a beautiful silver gilt mace,



Photograph by Mrs. F. Clarke

AN OLD FONT TAKEN FROM THE CASTEL CHURCH, GUERNSEY, WITH REPRESENTATIONS OF THE SUN AND MOON CARVED UPON IT

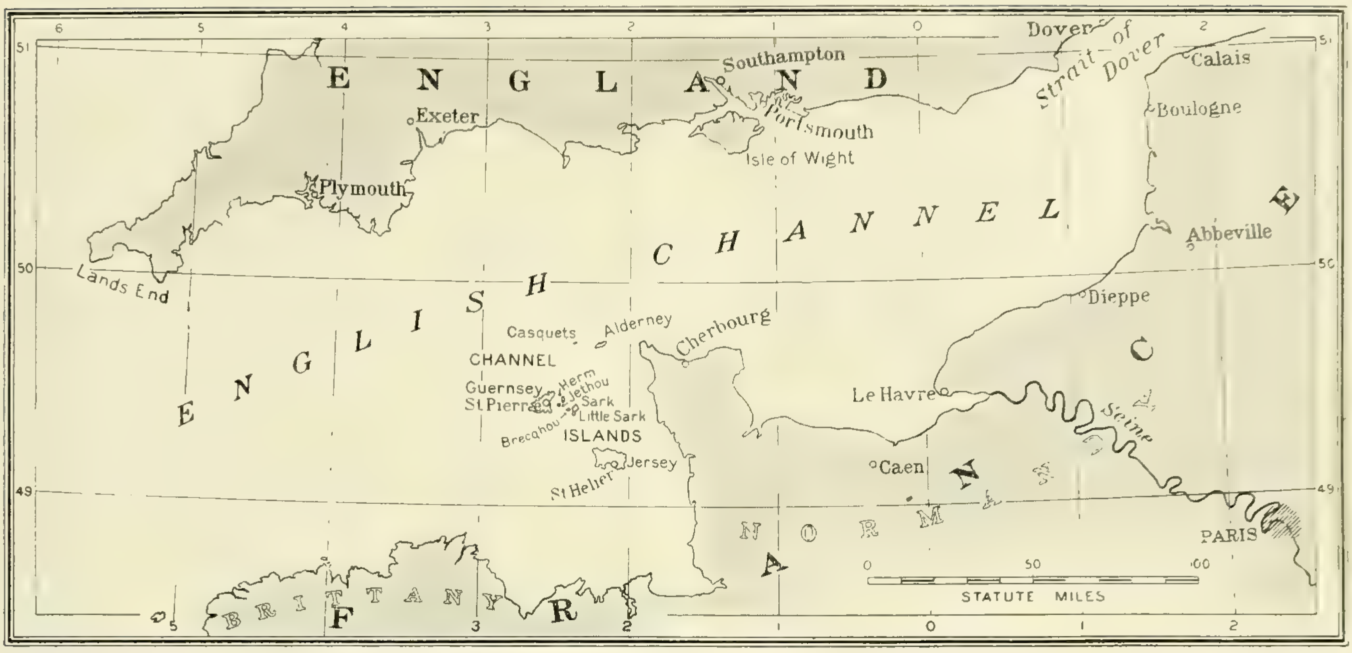
On each side of the font are specimens of the old feudal corn-measures.



Photograph by E. F. Guiton

ANCIENT QUERNS, FOR CRUSHING AND GRINDING GRAIN, FOUND AT THE HOUGUE MAUGER, SAINT MARY, JERSEY

"In the Channel Islands archæologists find records of the past dating almost from the beginnings of the human race."



Drawn by A. H. Bumstead

A MAP OF THE CHANNEL ISLANDS, SHOWING THEIR GEOGRAPHICAL RELATION TO FRANCE AND ENGLAND

and, among other privileges, granted to Sir George Carteret those lands in America which were named by him Carolina, after his royal master, and New Jersey, after his island home. (See "The Origin of American State Names" in this issue of THE GEOGRAPHIC.)

When Sir George was at Boston as Royal Commissioner he met the two Frenchmen, Medard Chouart and Pierre Radisson, who had tried so long and so unsuccessfully to interest the French Government in the development of the Hudson Bay territory. His quick mind realized the advantages to be gained, and he induced them to return with him to England, where he secured them an interview with Prince Rupert, the king's cousin, whose interest was at once awakened, and on May 2, 1670, the charter of the Hudson Bay Company was signed and sealed by the king.

One of the few Guernseymen who had remained loyal to the Stuarts was Sir George's cousin, Sir Edmund Andros, Seigneur of Sausmarez (grandson of the Thomas Andros who married Elizabeth de Carteret). Brave, capable, and energetic, he was made Governor General of the Province of New York in 1674 and Governor-in-Chief of New England in 1686, while in 1692, although Captain-General and Vice-Admiral of England, he was also made Governor of Virginia and all the American Colonies, and wrote his name in American history both for good and ill.

RALEIGH ENCOURAGED THE ISLANDERS TO COME TO AMERICA

But Carteret and Andros are not the earliest links which bind the Channel Islands to the American Continent. Sir Walter Raleigh, who was Governor of Jersey in the days of Queen Elizabeth, encouraged the islanders' emigration to Newfoundland, and thus started that codfish trade between North America and Europe which has enriched so many generations of Channel Islanders.*

FLOURISHING DAYS OF THE PRIVATEERS

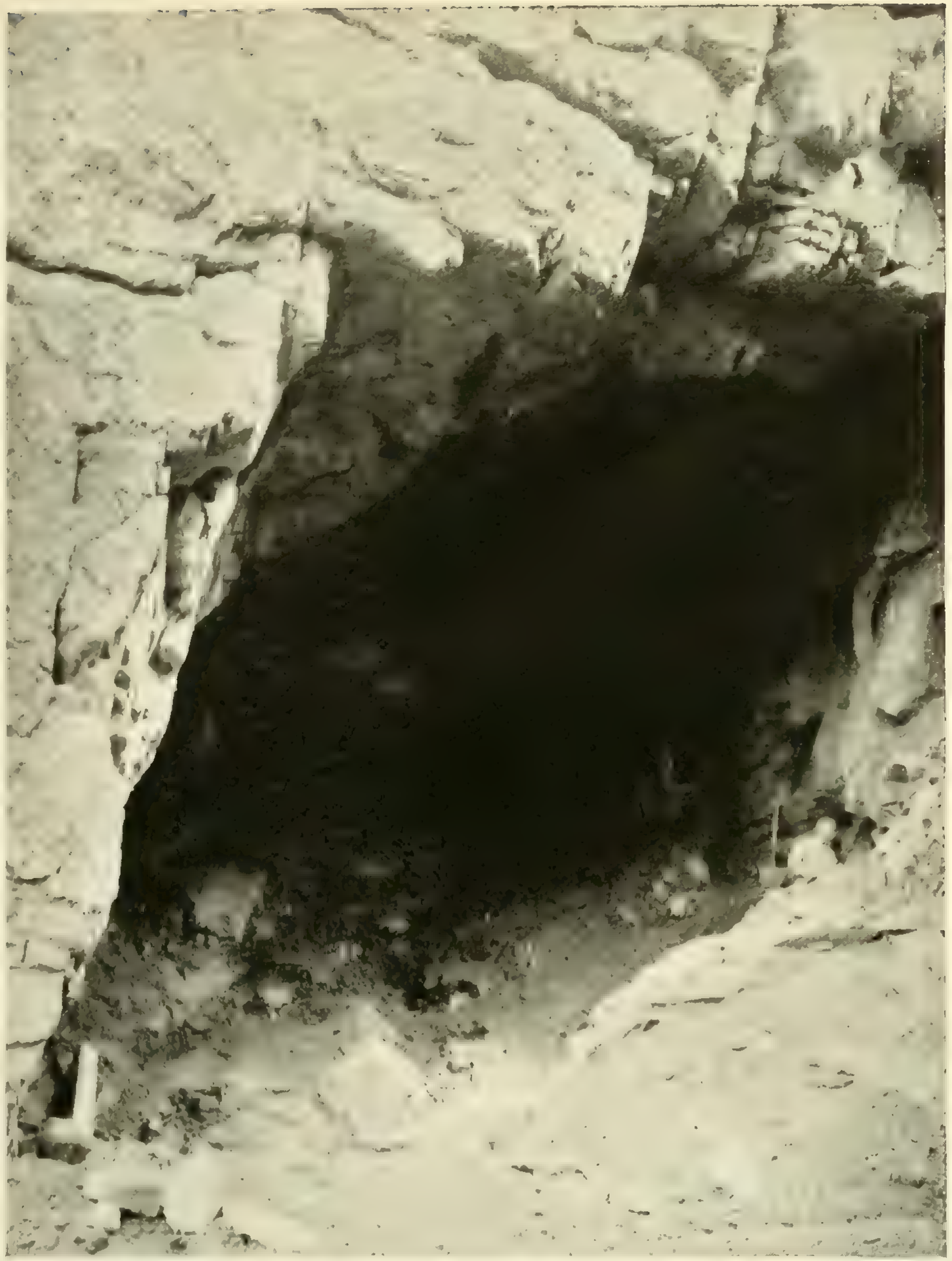
The eighteenth century was, on the whole, an era of wealth and prosperity in the islands. By birth and environment a nation of seamen, both inclination and patriotism led them to take up privateering with avidity.

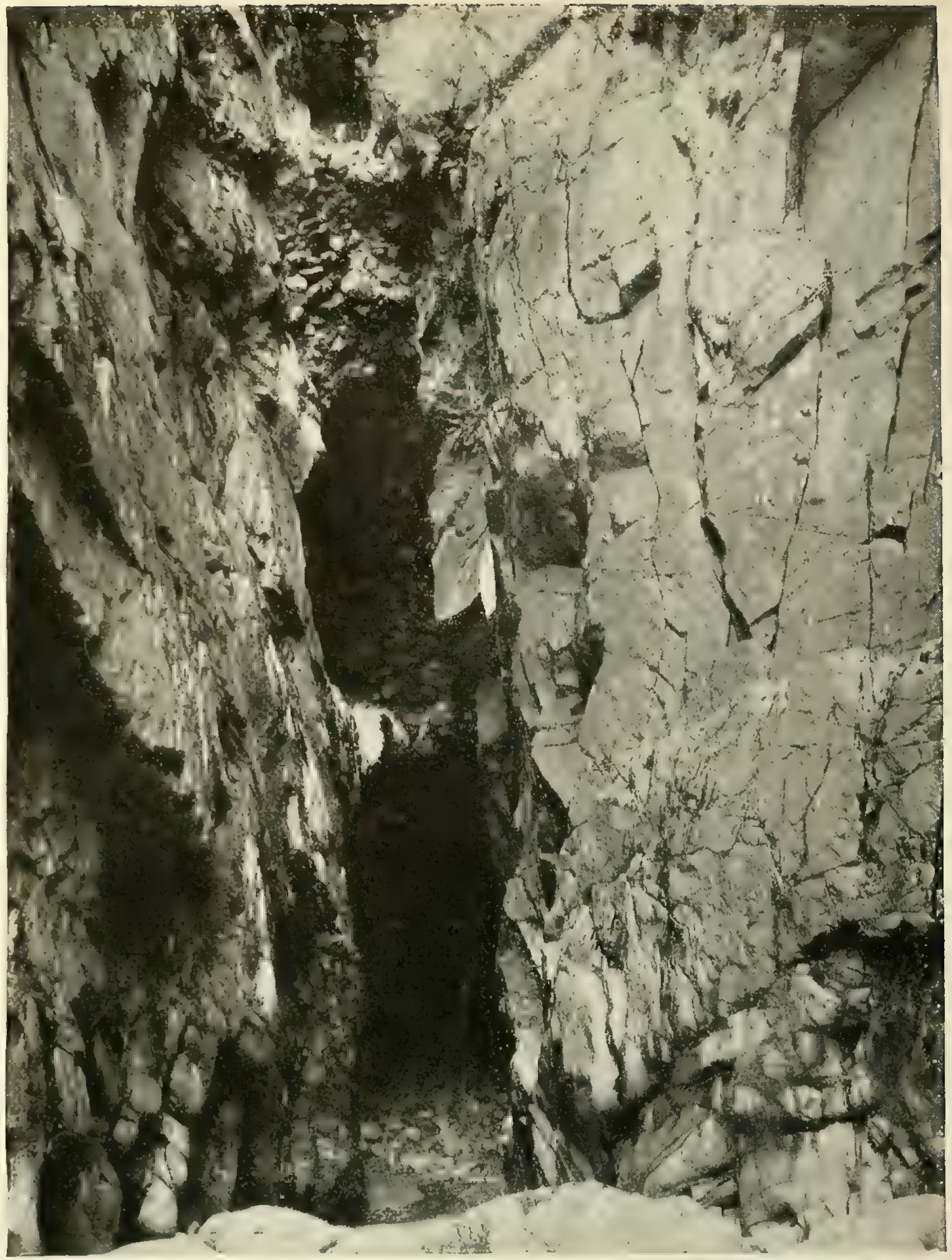
---

* The following letter from Sir Thomas Leighton, Governor of Guernsey from 1570 to 1609, written, during a visit to England, to Mr. Peter Carey, acting as his deputy in Guernsey, proves that the intercourse with Newfoundland was of a very early date:

"MR. CARIE:

"I received your letter by Mr. Pawlet. These are to let you understand that at the Requeste of Denis Rousse I have granted him Lycense to take certaine mariners out of the Island of





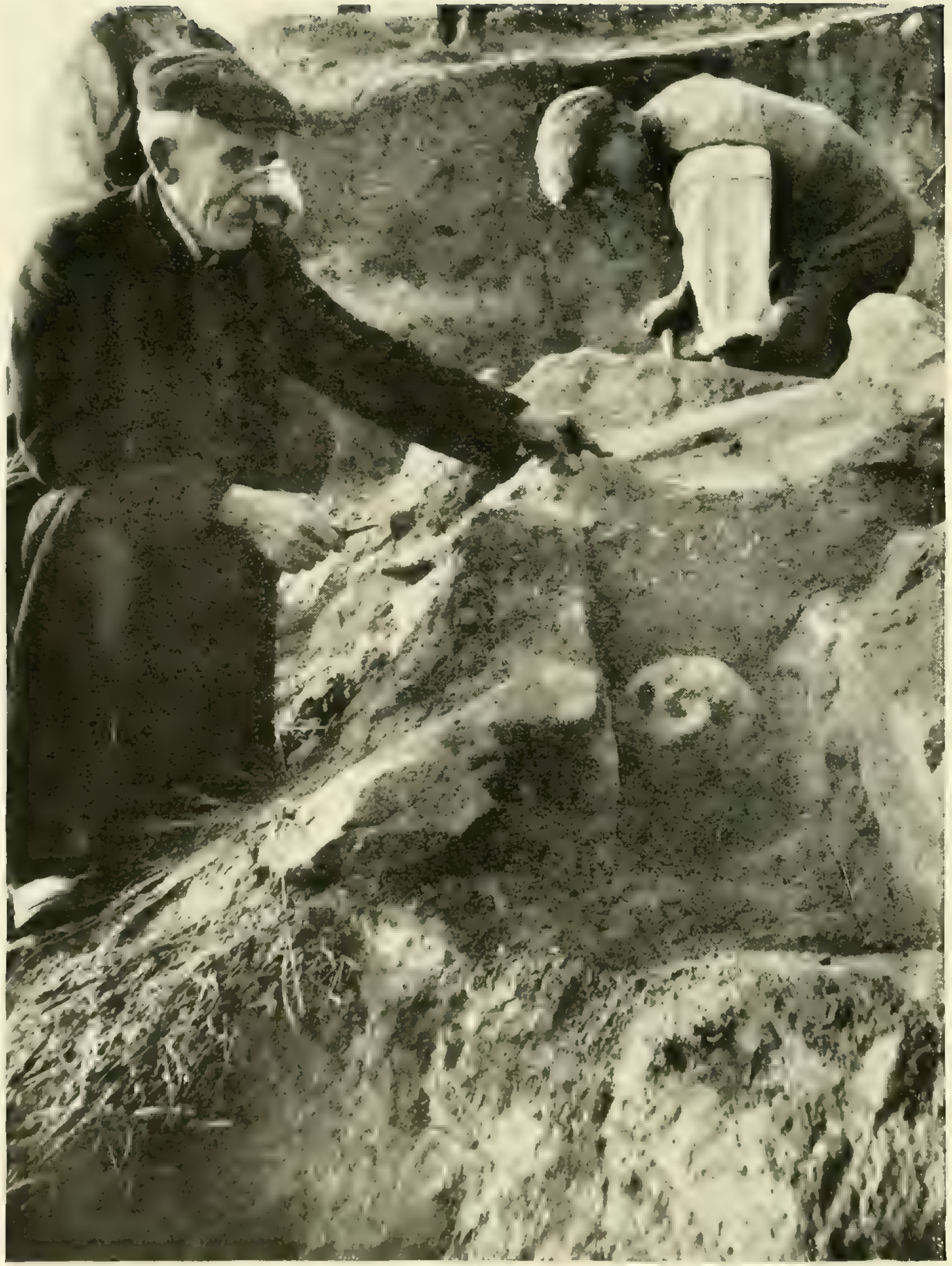
Photographs by E. F. Guiton

ONE OF THE TWO MOUSTERIAN CAVES RECENTLY FOUND ON THE ISLAND OF JERSEY

The remains unearthed here prove that the primitive mammoth, the great Irish elk, the reindeer, the woolly rhinoceros, and the cave hyena once inhabited the Channel Islands (see text, page 143). This cave contained the remains of man (Neanderthal), known as *Homo Breladensis.*

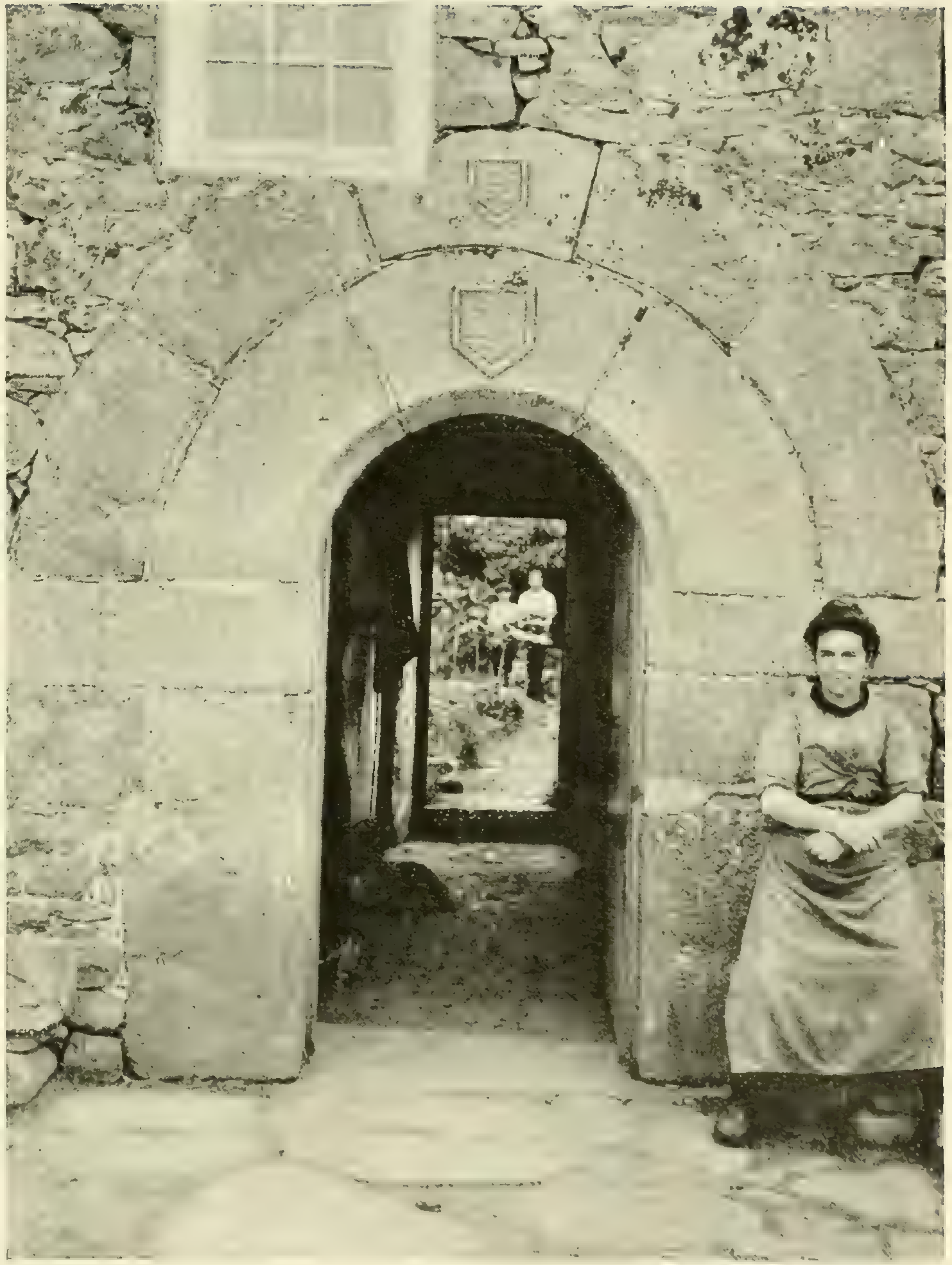
A CAVE ON THE NORTH COAST OF JERSEY SHOWING FORMER LEVELS OF THE SEA

Two levels of raised beaches are left, now much above the present highest tide. The currents are often dangerous to navigation among the islands, which are related geologically to the neighboring mainland of Normandy. Raised beaches are to be seen at several points in the islands.



Photograph by E. F. Guiton

EXPLORING ONE OF JERSEY'S NEOLITHIC GRAVES AT LA MOTTE



Photograph by Alfred Dobree

A GUERNSEY DOORWAY, ABOVE WHICH APPEARS THE DATE 1596

Photograph by Alfred Dobree

SAUSMAREZ MANOR, THE GUERNSEY HOME OF SIR EDMUND ANDROS

"One of the few Guernseymen who remained loyal to the Stuarts was Sir Edmund Andros. Brave, capable, and energetic, he was made Governor General of the Province of New York in 1674 and Governor-in-Chief of New England in 1686. In 1692 he was made Governor of Virginia and all the American Colonies, and wrote his name in American history both for good and ill" (see text, page 151).

Guernsey, to go on a voiage with him to Newfound Lande for fishe. And also, at the earnest intreatie of my goode friende, Mr. John Hopton of Southampton, have given leave for ten men and two boys more to go the same voyage with Isaiah Berney, Merchant. Therefore I pray you lett them pass if they be willinge. And so with my heartie commendaçons I bidd you farewell.

"Att Court, The 10th March, 1594.

"Your very loveing Friende,

"THOMAS LEIGHTON.

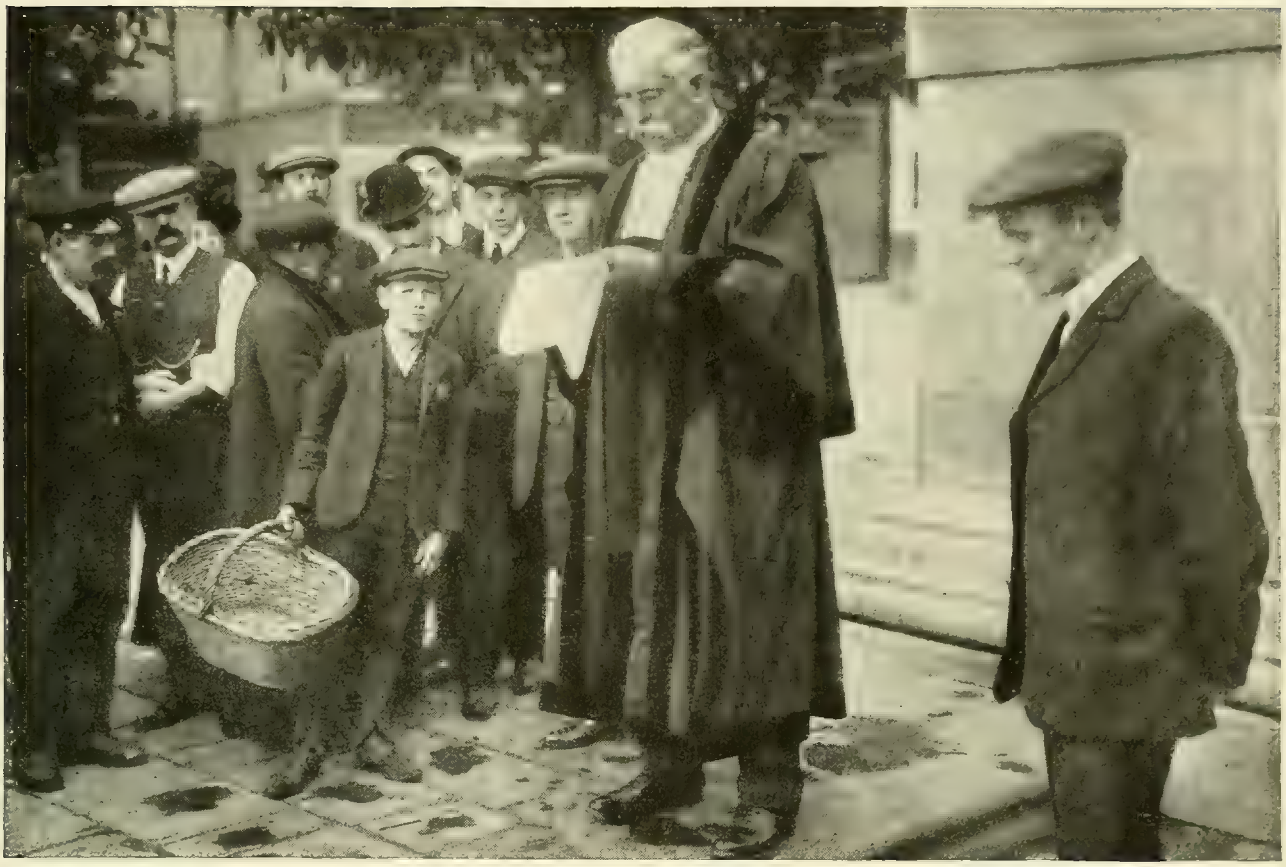
"To my very loveinge Friende, Peter Carey, my lieutente in Guernsey."

Every one who could afford it took out letters of marque, and rich prizes of men-of-war, and merchantmen from every country with whom England was at war—France, Spain, the Netherlands, and "the Rebellious Colonies of America" — were towed triumphantly into Channel Island harbors, until Burke declared in the English Parliament that "so formidable was their enmity and so valuable the assistance they had rendered to England, that they were almost entitled to be called one of the naval powers of the world."

It was not until the Declaration of Paris in 1856, when the nations of Europe agreed that "privateering is and remains abolished," that the hunting of treasure-ships ceased to be a licensed form of sport.

The latter days of the nineteenth century were marked by peace and prosperity for all the islands. In Jersey potato farming brought great wealth to the inhabitants; in Guernsey granite quarries and tomato houses, though marring the island's former picturesqueness and beauty, have increased its riches. The dairymen of Jersey, Guernsey, and Alderney have so increased and improved their breeds of cattle that these are in demand everywhere and are exported to the ends of the earth.

Among these peaceful fishermen and farmers came like a crash the thunderbolt of war. The majority of them knew



Photograph by E. F. Guiton

THE PEOPLE OF JERSEY BEING ADVISED OF THE PASSAGE OF A NEW LAW

On market day, in the royal square, the senior "dénonciateur," or sheriff, in his robe of office, "publishes" the newly passed law by reading it aloud.

no more of Germany and Germans than that a German prince had rented Herm from the Crown for some twenty-five years, and that a German band periodically visited these shores.

THE ISLANDERS RALLIED FOR THE WORLD WAR

But the old patriotism blazed forth undimmed. In the states houses of all the islands it was decided that the old privileges should voluntarily be put in abeyance; that the island militias, after seven hundred years of voluntary service, should be disbanded, and that the islanders should be enrolled in England's armies "for service beyond the seas."

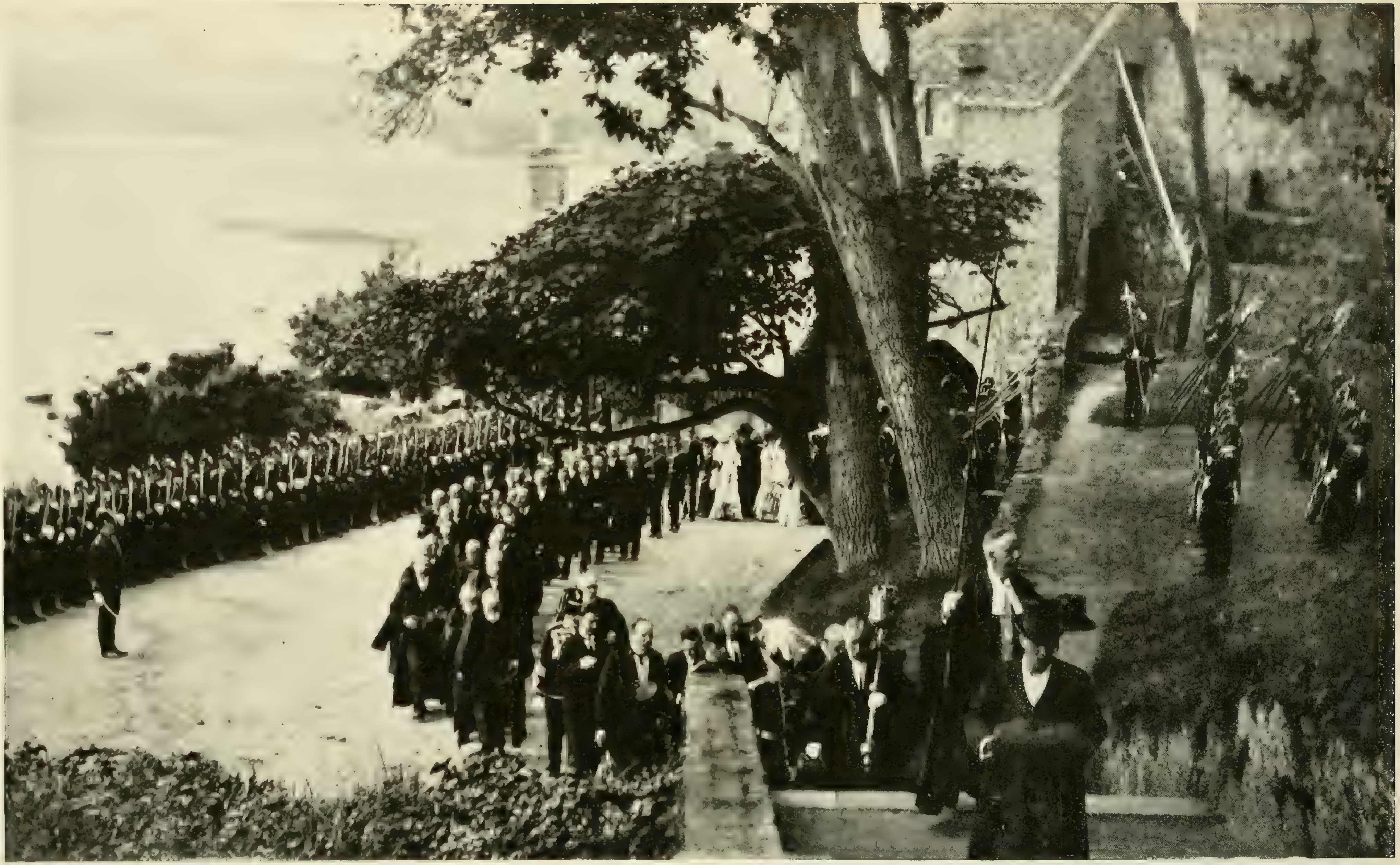
Jersey, with its wooded valleys, its winding lanes, overarched with foliage; its orchards, its miles of glistening sand, its quaint old churches and picturesque granite farmhouses, and dominated always by the magnificent ruins of Mont Orgueil Castle, gives the impression of unbounded prosperity and fertility. Its lands having been owned always by a race of peasant proprietors, the country shows that it has been cultivated for its own sake by men who loved it and not by hirelings.

Naturally enough, so much beauty has bred a race of artists, the most famous being Monamy, Le Capelain, Jean the miniaturist, Ouless, Sir John Millais, and at the present day Messrs. Lander, Le Maistre, and Blampied.

Guernsey, alas, is spoiled, from a scenic standpoint, by miles of greenhouses and acres of quarries. But its cliffs and bays are magnificent, and Moulin Huet is perhaps the most lovely spot in the islands. There are still to be found some wooden walks and lanes, old stone walls and arched gateways, which are as yet unmarred by the utilitarian demands of modern agriculture and industry.

VICTOR HUGO WROTE THREE FAMOUS NOVELS IN GUERNSEY

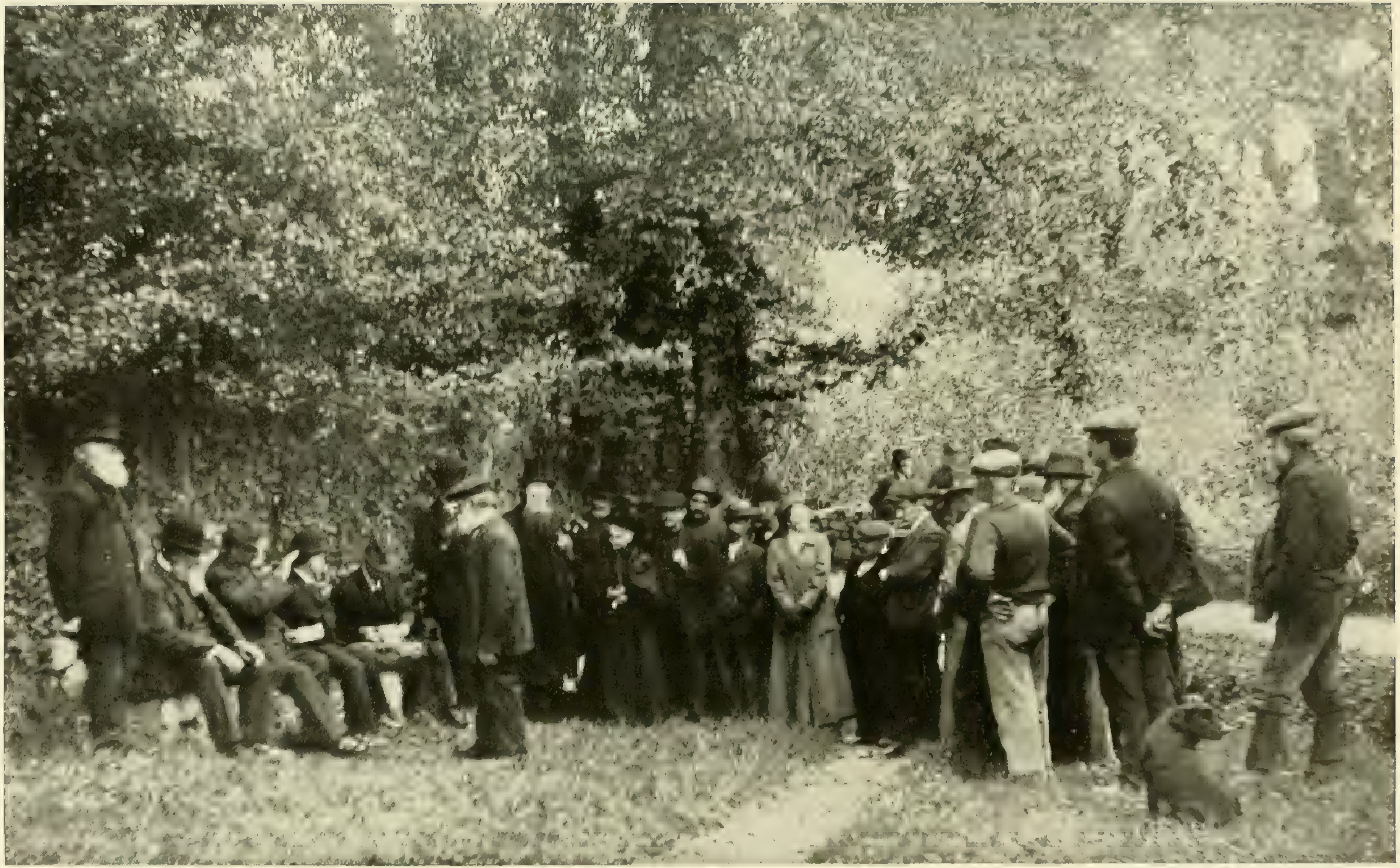
Saint Peter Port, built on the side of a hill, retains a certain amount of its former picturesqueness; it is traversed by a curious succession of long granite stairways, and, with its high red-roofed houses, has a foreign appearance—"Caudebec sur les épaules de Harfleur," as



Photograph from Edith Carey

THE TAKING OVER OF MONT ORGEUIL BY THE SOCIÉTÉ JERSAIASE ON JUNE 28, 1907

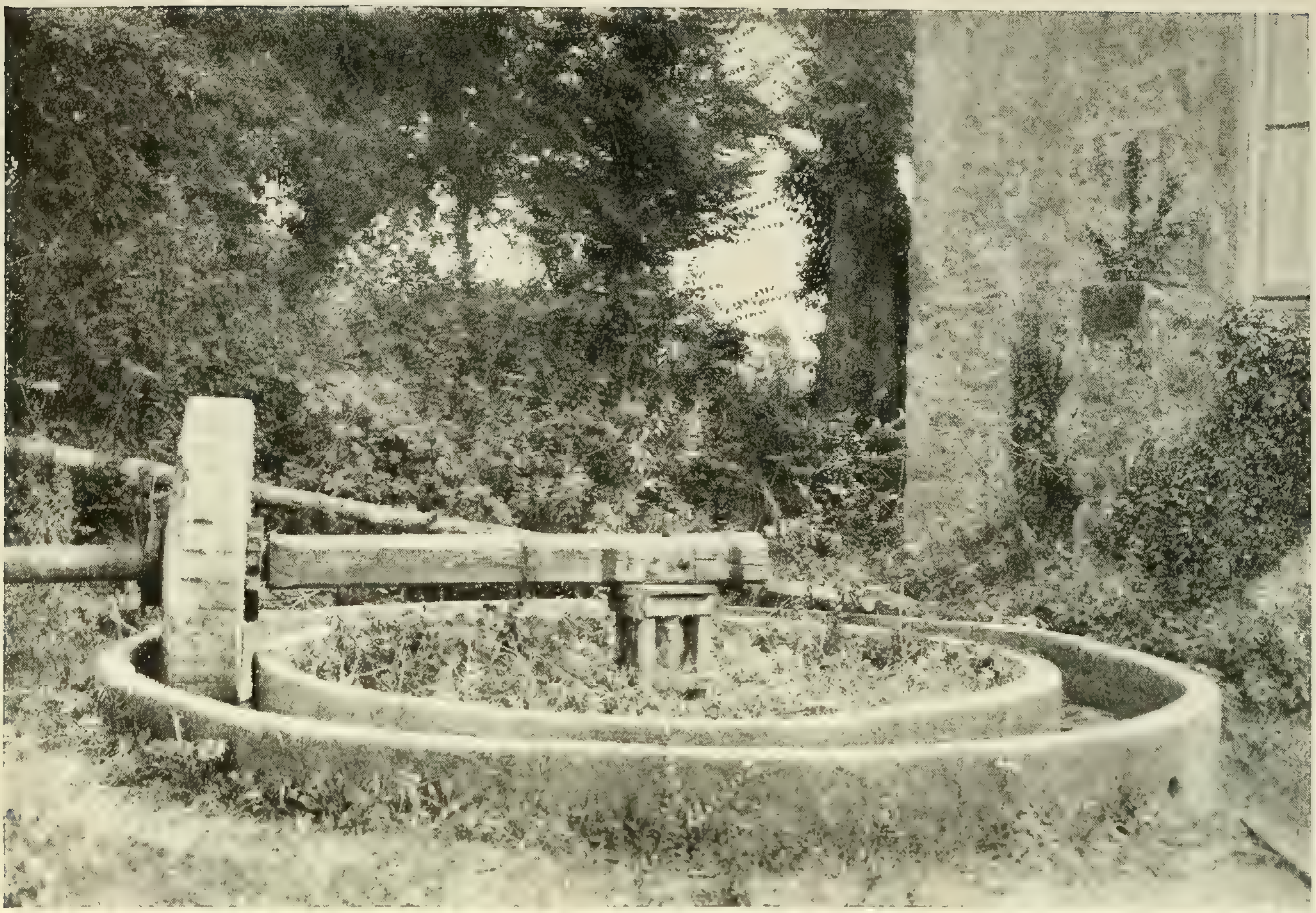
The procession is headed by the Vicomte of Jersey, bearing his wand of office, and followed by the mace-bearer, the Lieutenant Governor, the bailiff, and the members of the royal court. On the right of the photograph stand the halberdiers.



Photograph by Mrs. F. Clarke

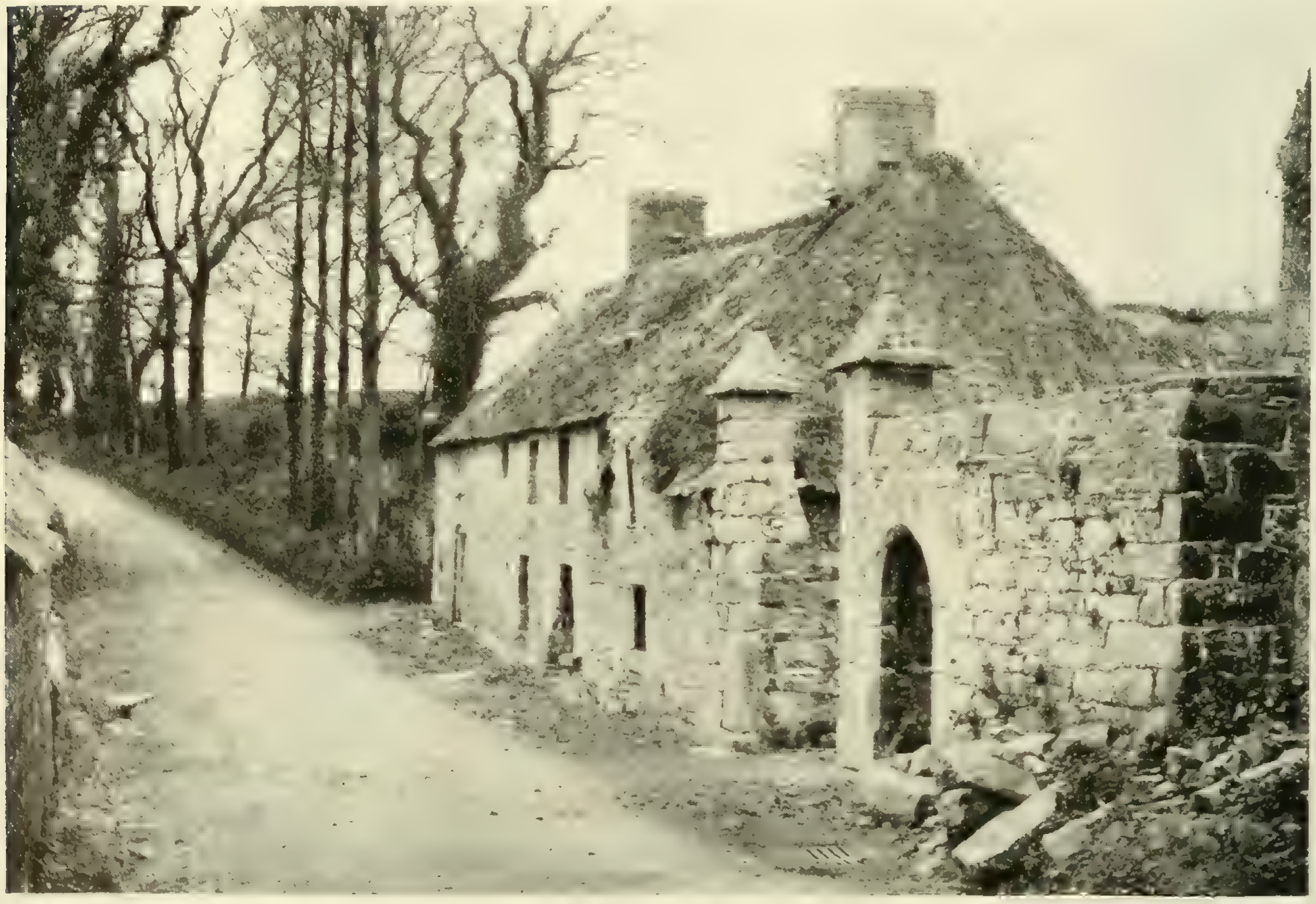
HOLDING THE COURT OF FIEF BEUVAL: GUERNSEY

There is evidence that originally all feudal courts were held in the open air, and in Guernsey some of the smaller courts still assemble in the spots that have been used for hundreds of years. Their officers—senechal, greffier, and vavasseurs—still swear with uplifted hands to be faithful vassals to their liege lord. In the scene shown above the senechal (bailiff) is swearing in a vavasseur.



Photograph by Alfred Dobree

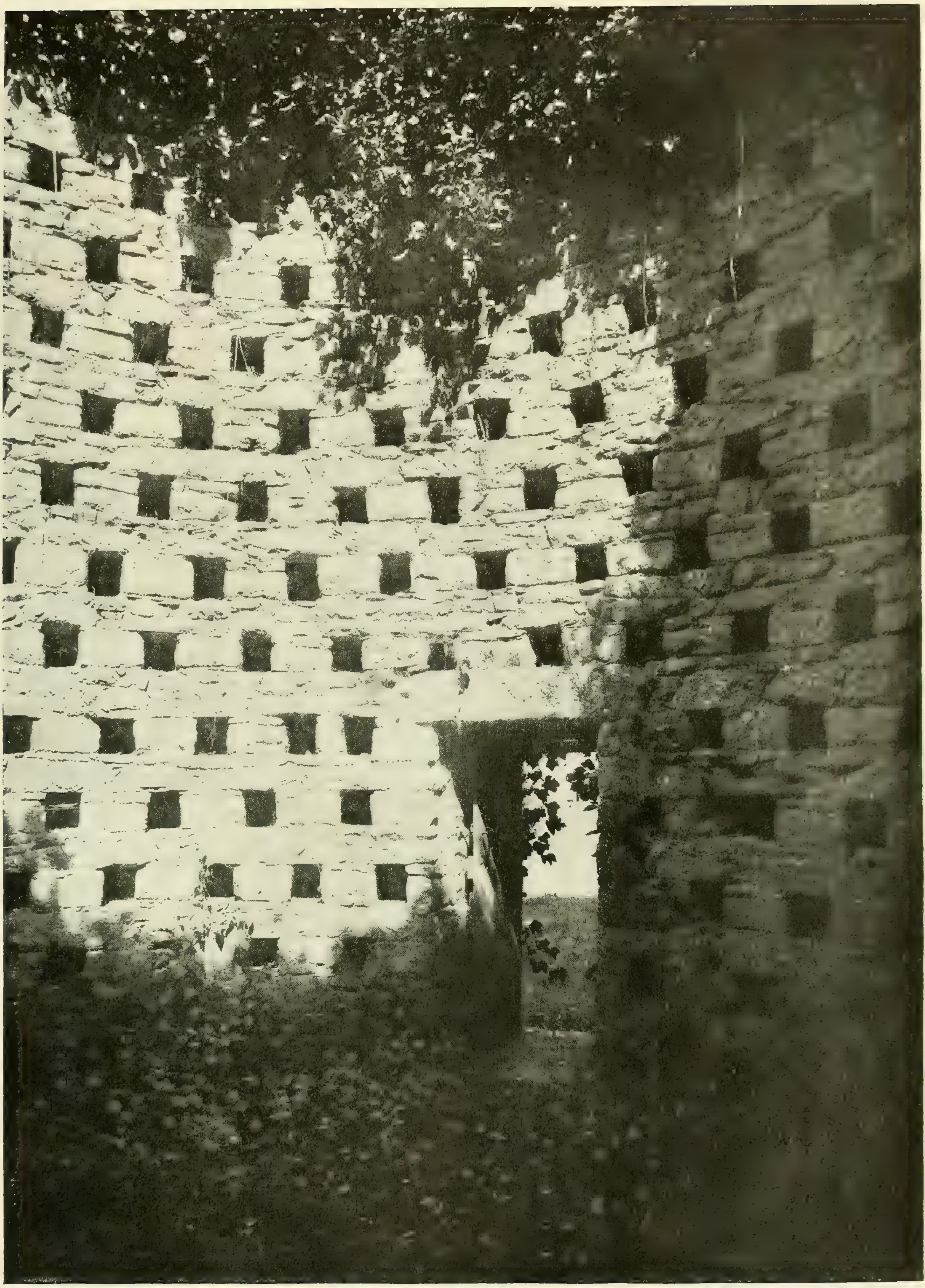
A GUERNSEY CIDER MILL



Photograph by E. F. Guiton

REMAINS OF THE OLD PRIORY MONT AU PRÊTRE: JERSEY

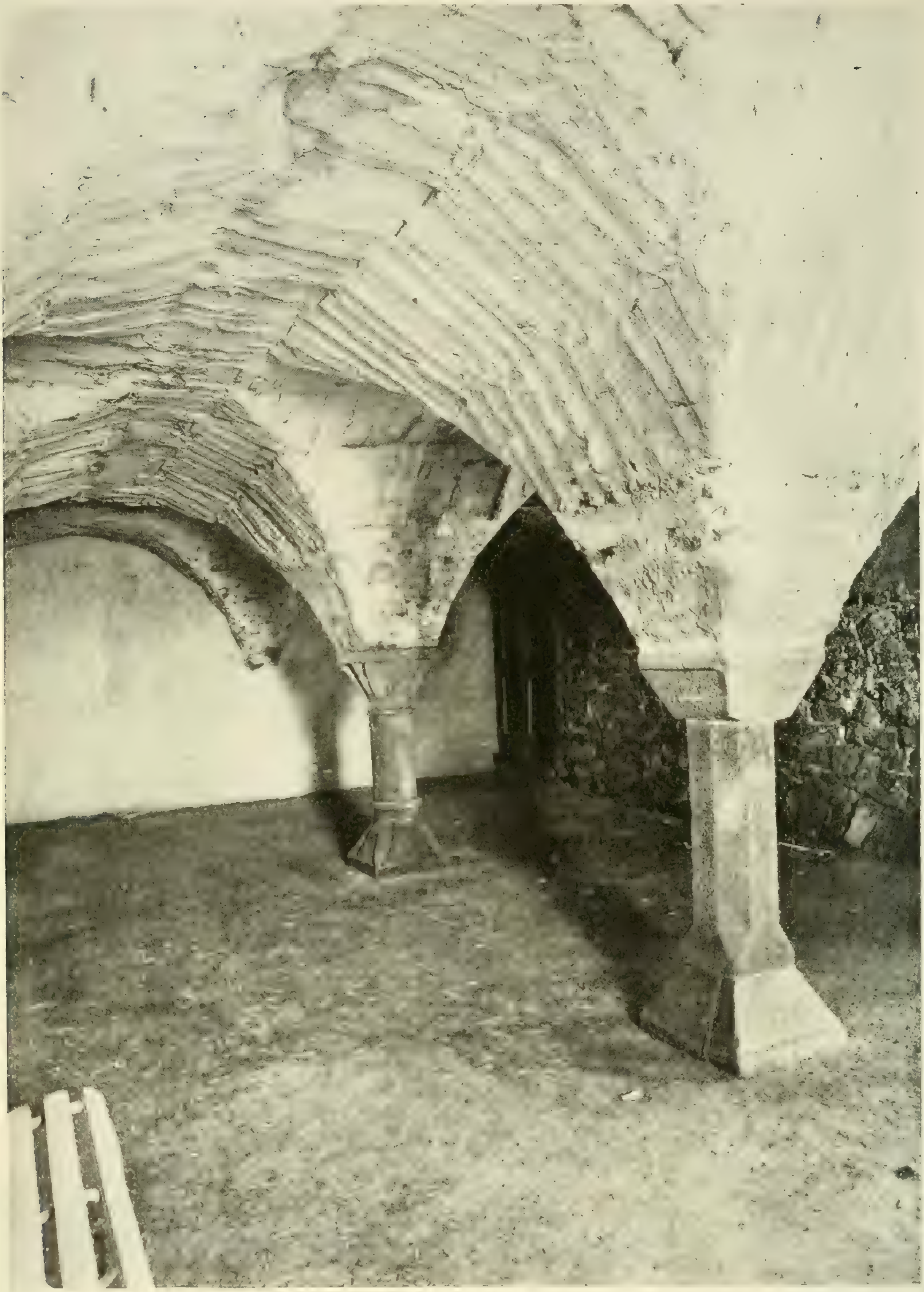
In spite of their political separation from Normandy at the beginning of the thirteenth century, the Channel Islands remained in the See of Coutances until the Reformation (see text, page 148).



Photograph by Tynan Brothers

INTERIOR OF THE "COLOMBIER," OR DOVECOTE, AT SAMARÉS MANOR, JERSEY

A colombier was one of the most coveted privileges of feudal times, being distinctive of the "droit de chasse," which was a privilege attached to noble fiefs alone. Only a "noble" seigneur could have as a colombier an *isolated* round tower, though by a later concession the lesser seigneurs might have a *tourelle,* or demi-tower, on condition that it be attached to the principal edifice, while those of the third rank of the feudal hierarchy were only allowed to pierce pigeon-holes either in the eaves or gables of their houses.



Photograph by Tynan Brothers

INTERIOR OF THE FEUDAL CHAPEL OF SAMARÉS, JERSEY

This is an early Norman building of the eleventh or twelfth century, attached to the Manor House of Samarés.

Vacquerie described it when on a visit to Victor Hugo, who was then living in the islands as an exile from France.

It was during the great Frenchman's residence in Guernsey that he wrote much of his poetry and three of his best-known novels—"Les Misérables," "The Man Who Laughs," "The Toilers of the Sea." In commemoration of his exile the French nation brought over and erected a statue to his memory in July, 1914.

The lesser islands, Alderney, Sark, Herm, and Jethou, are comprised in the bailiwick of Guernsey.

Alderney, described by Napoleon as the shield of England, was considered, in the days before aircraft, submarines, and long-range guns had revolutionized warfare, to be the key of the channel. Consequently, during the Napoleonic wars, forts were erected here by the British Government at vast expense.

Rugged and inhospitable as the island looks to the wayfarer, it has a savage, untamed beauty denied to the other islands. It is surrounded by the most dangerous currents and the wildest seas in the English Channel.

Seven miles west of Alderney lie the famous Casquet rocks, "where the carcases of many a tall ship lie buried." In spite of many petitions and numberless tragedies, it was not until 1723 that the British Government established a beacon light on these dangerous rocks; and then it was but a coal fire burning upon an armorer's forge and kept alight by bellows.

Naturally, the fiercer the gale the more the light was extinguished by the spray, and the toll of ships so increased that in 1779 this primitive appliance was superseded by an oil light in a copper lantern. Nowadays there is a fog-signal station and a lighthouse with a brilliant revolving light.

SARK THE EPITOME OF CHANNEL ISLANDS BEAUTY

No one can claim to have seen the Channel Islands until he has seen Sark, which is an epitome of the beauty of them all. It contains the wooded valleys of Jersey, the brilliant lichen-covered cliffs of Guernsey, and its own carpet of wild flowers and sea-anemones, while the natural magic of its beauty is supplemented, to the initiate, by the magic-working powers of some of the old inhabitants.

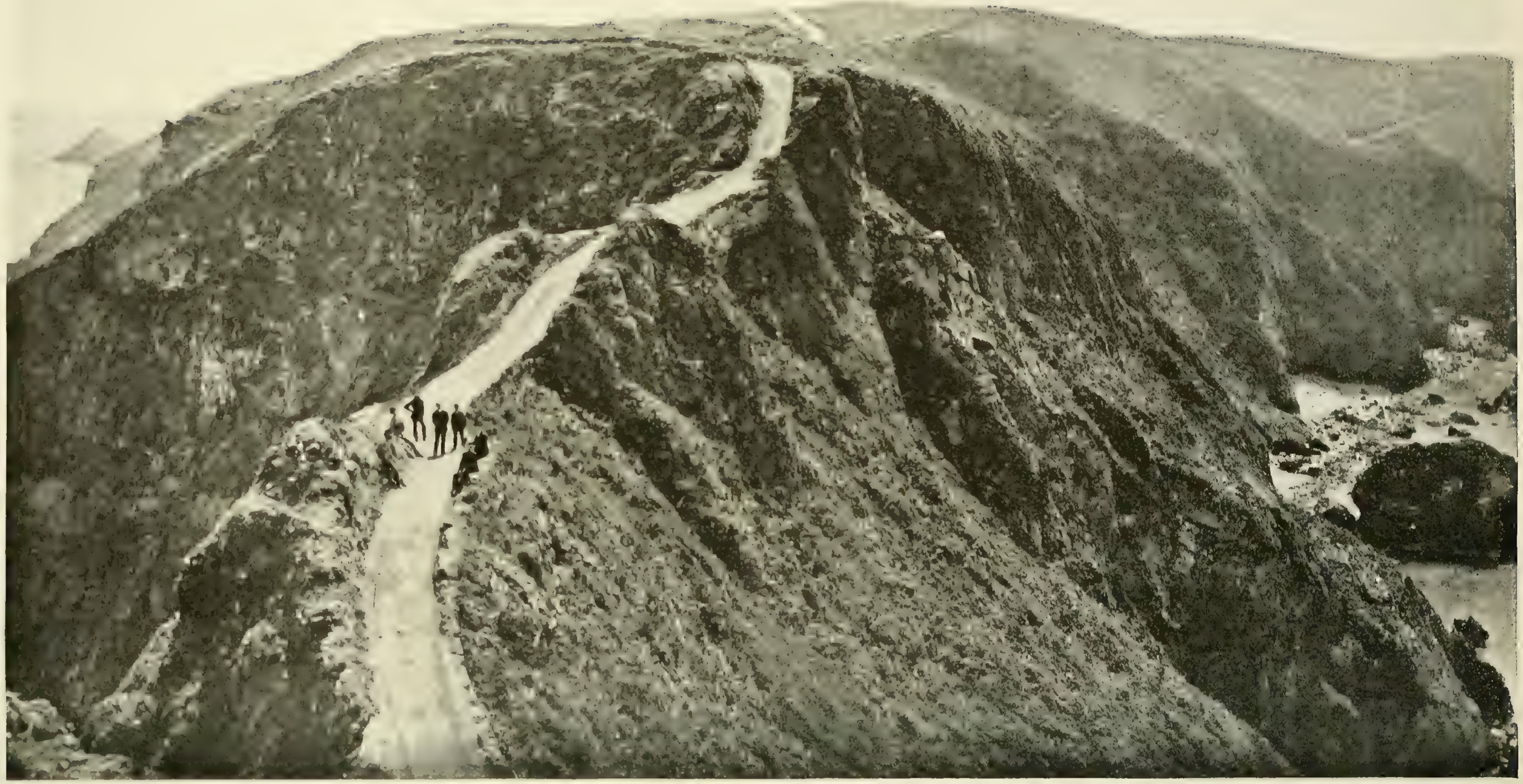
Photograph by G. A. Piquet

A GORGE MORE THAN 100 FEET DEEP, IN THE CLIFFS AT CRABBÉ: JERSEY

Crabbé is a small, almost circular cove, surrounded by very steep cliffs. It is one of the wildest and most desolate places on the northwest coast of the island. This gorge has been caused by the erosion of a vein of greenstone in the granite.

Great Sark is connected with little Sark by "one sheer thread of narrowing precipice" called the Coupée. The island is held from the Crown by feudal right, and its Seigneur, who presides over the local court with the help of his senechal, his prevôt, and his greffier, enjoys autocratic powers unknown elsewhere in Europe.

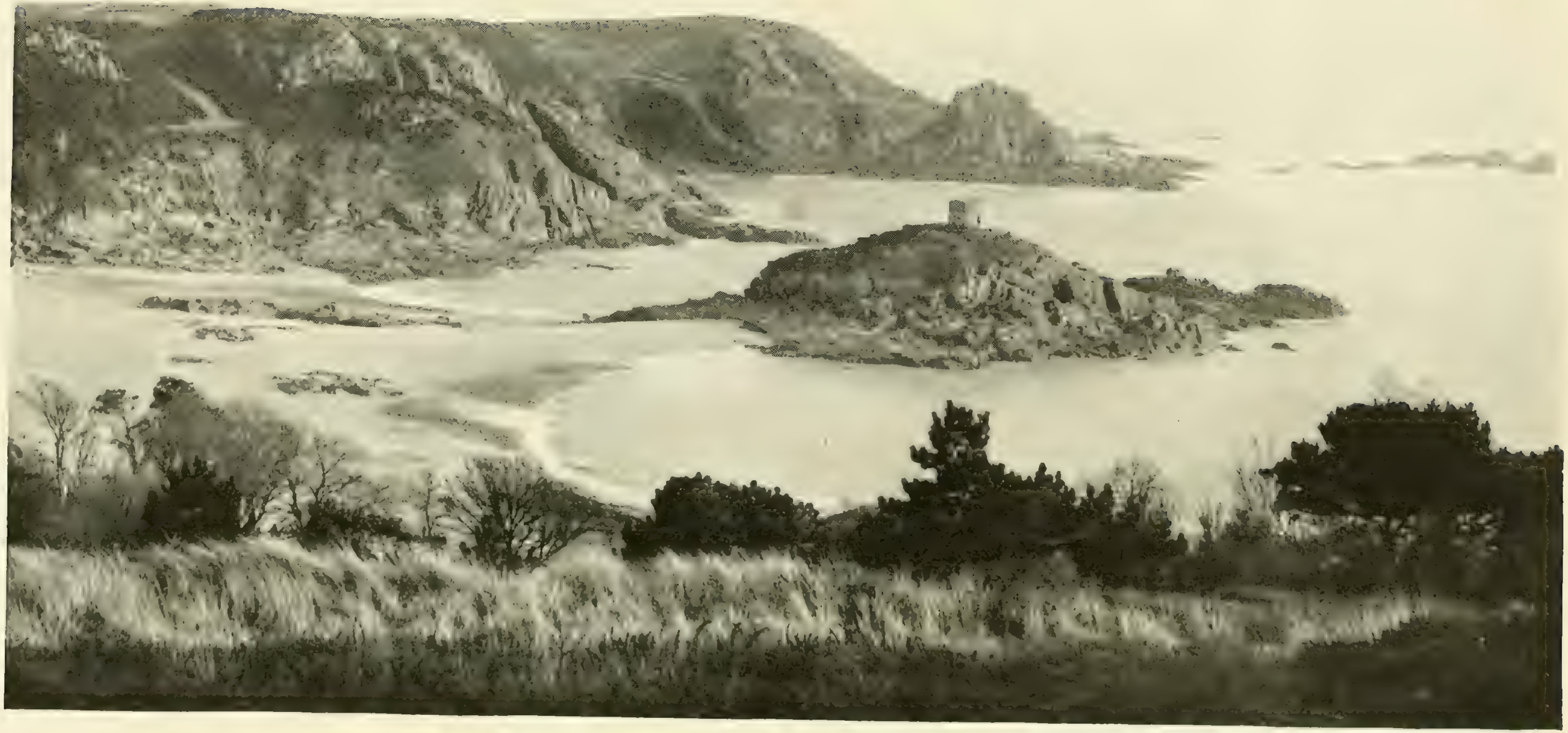
The two remaining islands of the archipelago are Herm and Jethou, which lie between Sark and Guernsey. They belong to the Crown, having gone through many vicissitudes and having passed through a great variety of hands.



Photograph from Edith Carey

THE COUPEE, THE MOST CELEBRATED BIT OF CLIFF ON THE ISLAND OF SARK

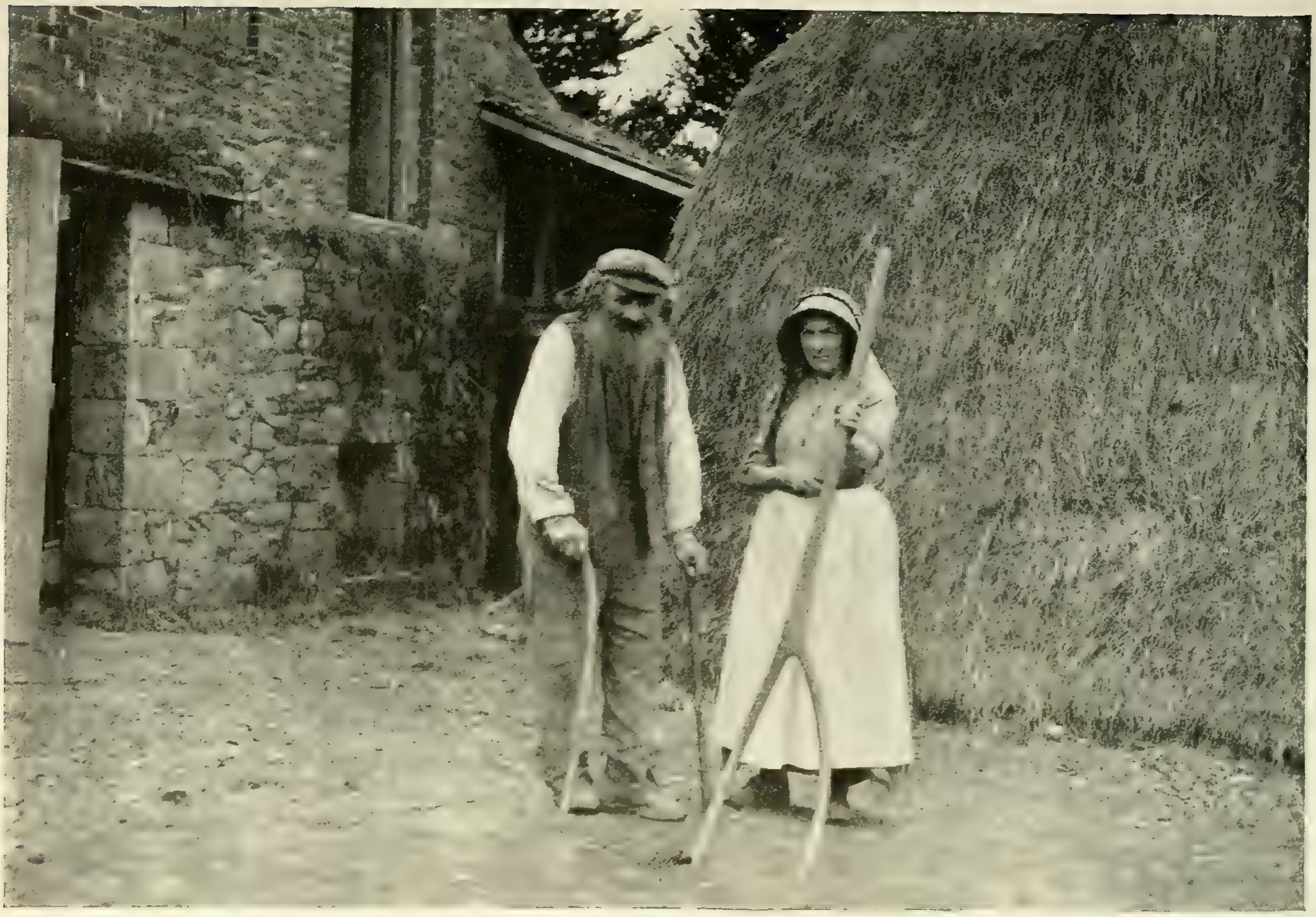
This narrow neck of rock connects Sark with Little Sark "by one sheer thread of narrowing precipice." The road is barely wide enough to permit a carriage to drive over it. The view from this vantage point, 300 feet above the sea, is superb, with the island of Jersey to the east and Guernsey, Herm, and Jethou to the west



Photograph by E. F. Guiton

IN THE MIDDLE OF PORTELET BAY STANDS "L'ILE AU GUERDAIN," CROWNED BY JANVRIN'S TOWER: JERSEY

This is one of the many coast defense Martello towers which dot the shores of Jersey, Guernsey, and Alderney. They date from the seventeenth and eighteenth centuries, some of them built at the time of the Napoleonic scare.



Photograph by Alfred Dobree

AN OLD GUERNSEY FARMER AND HIS WIFE WITH A NATURE-GROWN HAY-FORK

Herm is remarkable for two shell beaches, of which even the shingle is composed of minute particles of shell, and is unequaled on the British coasts for the profusion, variety, and rarity of the species there to be found. The last tenant of the island successfully introduced the small species of kangaroo called wallaby.

In each island still lingers the old "patois," a survival of the French, which was once the court language of England as well as of France, while even now there remains a certain individuality about the thoroughbred Channel Islander. To the world in general he asserts himself an Englishman, but in the presence of the English he boasts of being a Jerseyman or a Guernseyman.

Acquaintance proves that each island has its own fauna and flora, its own group of family names.

The coasts present every variety of sea scenery—granite cliffs which even at the lowest tide stand fathoms deep in ever-heaving water; long reaches of sand that, when the tide is out, stretch away for nearly a mile below high-water mark; little creeks where the sand is dotted with black, serrated reefs half covered with seaweed at the ebb and all but covered by the foam of the waves as they fret themselves into yeast-like spray at the flow. Above are cliffs, golden with gorse, starred with marguerites, rose and blue with campions, foxgloves, and bluebells; intersected with tiny valleys, "as if God's finger touched, but did not press."

On the horizon one sees the outline of the other islands, dim and soft through the summer haze, clear and sharp before the coming rain; beyond these the line of the French coast, and all around a sea, indescribably blue in the sunshine, gray and purple and cruel under the clouds.

Above all, each island is crowded with associations. They retain the traditions of old gods, the remembrances of ancient men.

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Index for Volume XXXVII (January–June, 1920) will be mailed to members upon request

VOL. XXXVIII, NO. 3 WASHINGTON SEPTEMBER, 1920

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RIO DE JANEIRO, IN THE LAND OF LURE

By Harriet Chalmers Adams

Author of "Picturesque Paramaribo," "Kaleidoscopic La Paz," "The First Transandine Railroad from Buenos Aires to Valparaiso," "Cuzco, America's Ancient Mecca," "In French Lorraine," etc.

ON a forested hill overlooking Rio de Janeiro, not far from the eighteenth century stone aqueduct which brings cool mountain water from Tijuca, lives an old man of Belgian blood who has earned a living since boyhood by catching butterflies. I found the old fellow in the dingy little workshop where he sorts, stretches, and dries his treasures, mounting them in pasteboard boxes lined with pith, to which they can be securely pinned. He has become feeble, and nowadays the boys in the neighborhood do most of the netting for him. Once he reached too far for a big golden beauty, fell off a cliff, and lay two days and nights in the jungle before he was found.

"I am nearly eighty," he told me, "and have lived on this hill since I was a boy. Ever since I can remember I have caught moths and butterflies. Before the war most of my shipments were to Belgium; but now I sell to curio dealers in town and to tourists at the hotel on the hill.

"We have many varieties of butterflies in this part of the country, and this *morpho* is the finest of them all." He pointed to a gorgeous eight-inch, metallic blue insect tipped with brown. "It flies here mostly in March."

RIO IS AS VARIHUED AS A TROPIC BUTTERFLY

As multicolored and varied in beauty as the butterflies of the tropics is the metropolis of Brazil. When autumn leaves are falling in the "States," it is springtime in Rio de Janeiro. Then the treetops on the hills are all abloom in pink and purple, scarlet and gold.

In splendor of hue and setting, this great city of the South is unrivaled the world over. Here granite peak and turquoise sea, tropic forest and rainbow-tinted town, meet and harmonize.

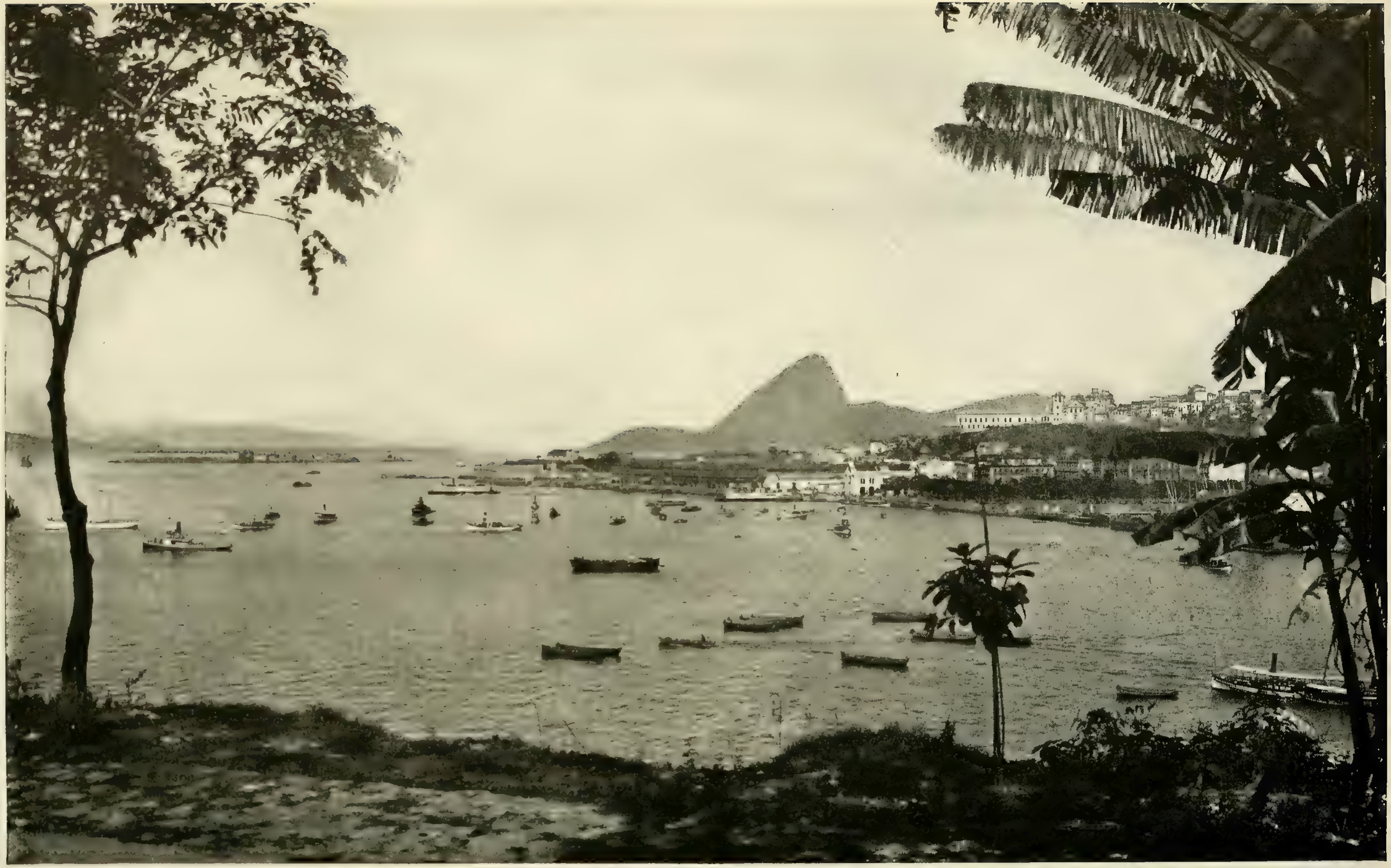
This city of lure terraces up from a glorious bay—the Bay of Guanabara, mountain-encircled, isle-bejeweled. From the shore, where parks and boulevards are fast crowding out the old Rio of narrow streets, rise the forested hills on whose slopes the lovelier portion of the city lies.

Place your hands on the table, fingers spread, wrists upraised. Each finger represents one of Rio's hills; each space between, a canyon up which the city climbs.

A CITY OF COLORFUL GARDENS

Spain is the land of paintings, Portugal of gardens. In Brazil many things Portuguese have persisted besides the mother tongue. Colorful indeed are the gardens of Rio.

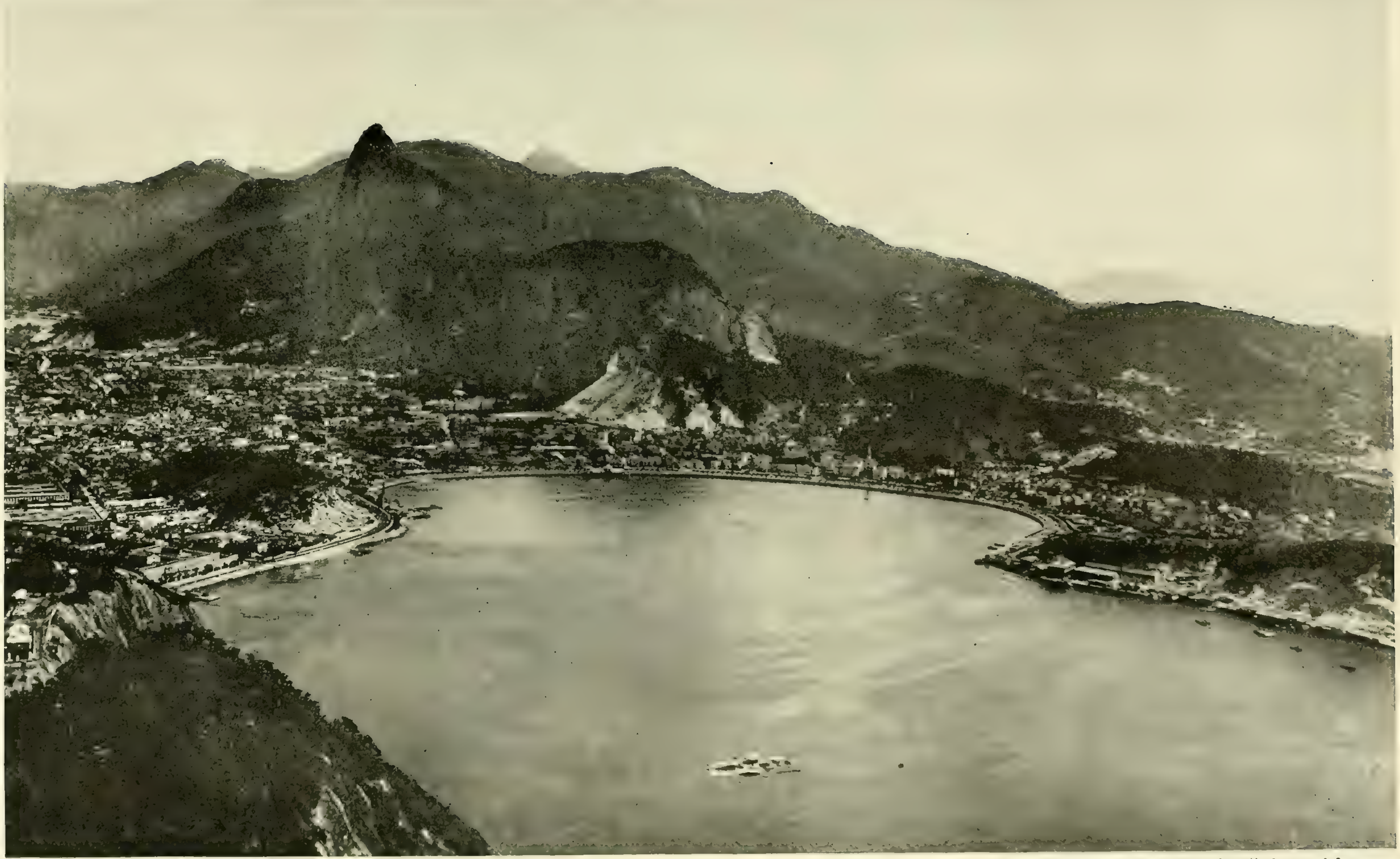
There are old walled gardens surrounding houses built in the days of the empire. These houses usually stand at the head of a canyon, or on the crest of a hill. They are dignified one-story buildings with large rooms, high ceilings, and many windows. Their vivid color is what the Brazilians call "Portuguese



Photograph from Harriet Chalmers Adams

VIEW OF A PORTION OF RIO DE JANEIRO'S WATERFRONT FROM THE ISLAND OF COBRAS, THE BRAZILIAN GOVERNMENT NAVAL BASE

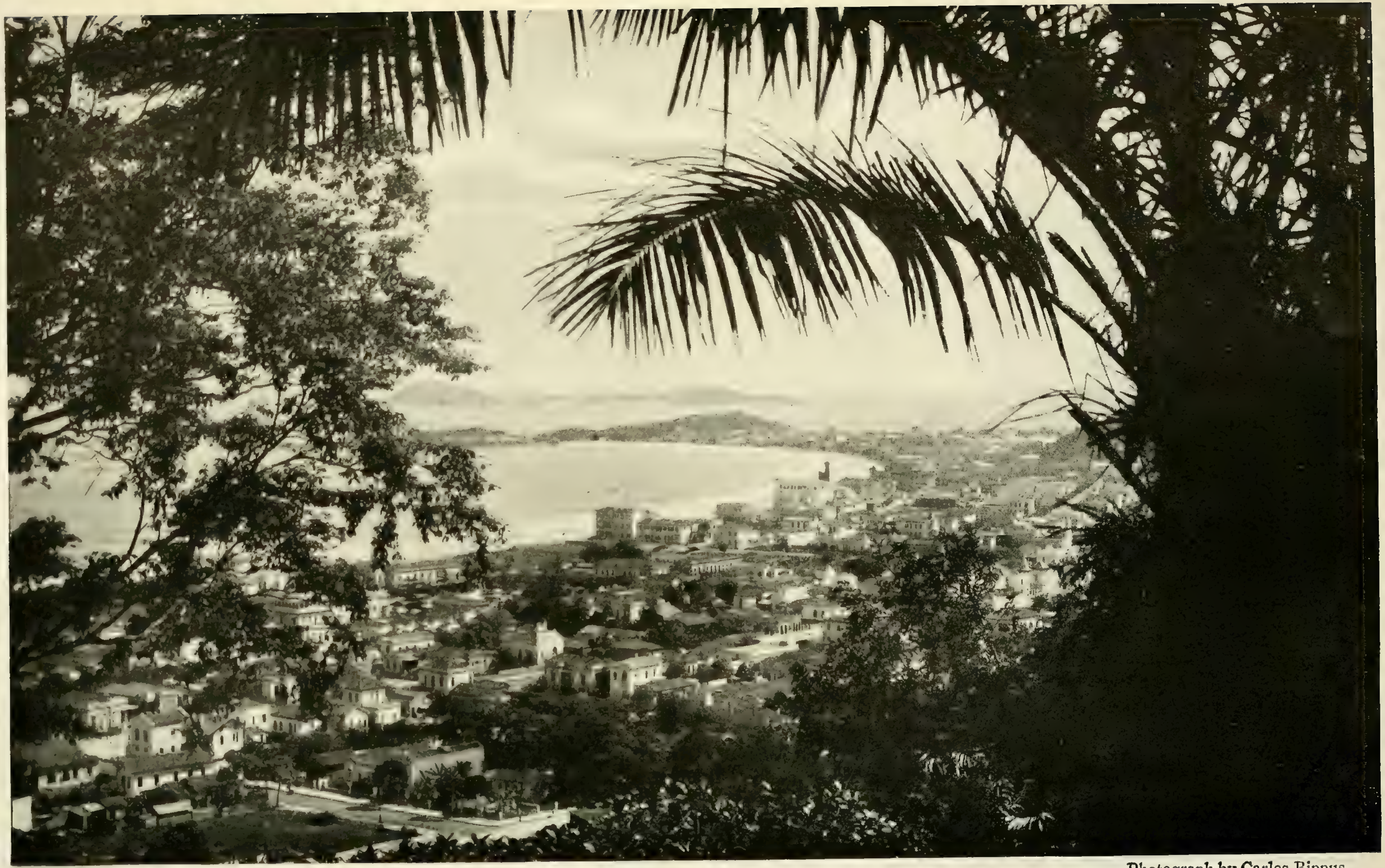
The entrance to the harbor, a bit of the bay front, and the ancient Jesuit church on Castello Hill, built in the middle of the sixteenth century, are shown. From Castello Hill (Morro de Castello), with its earliest churches and fort, the city gradually expanded.



Photograph from Harriet Chalmers Adams

RIO DE JANEIRO FROM THE SUMMIT OF SUGAR LOAF (PÃO D'ASSUCAR), SHOWN ON PAGES 182 AND 183

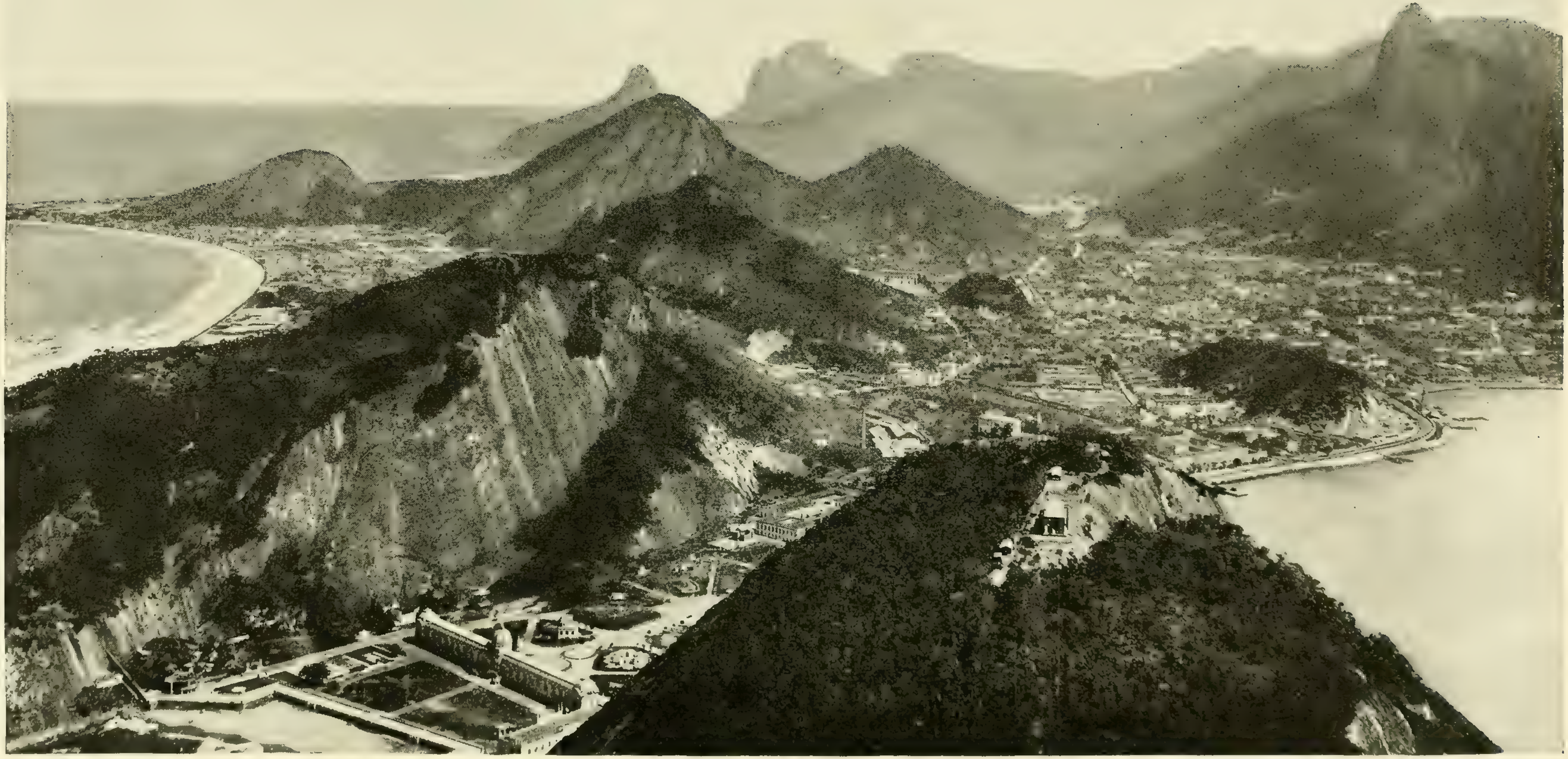
The view back on the city at sunset from Sugar Loaf summit. All around is water. As the glowing, coppery sun drops behind the jagged mountain tops, dusk envelops the land in a mystic reddish haze. One by one the lights of the city gleam out, night falls, and Rio is a bejeweled goddess on a purple velvet throne.



Photograph by Carlos Bippus

ON THE OCEAN SIDE OF RIO, LOOKING DOWN ON ONE OF THE CHAIN OF BEACHES

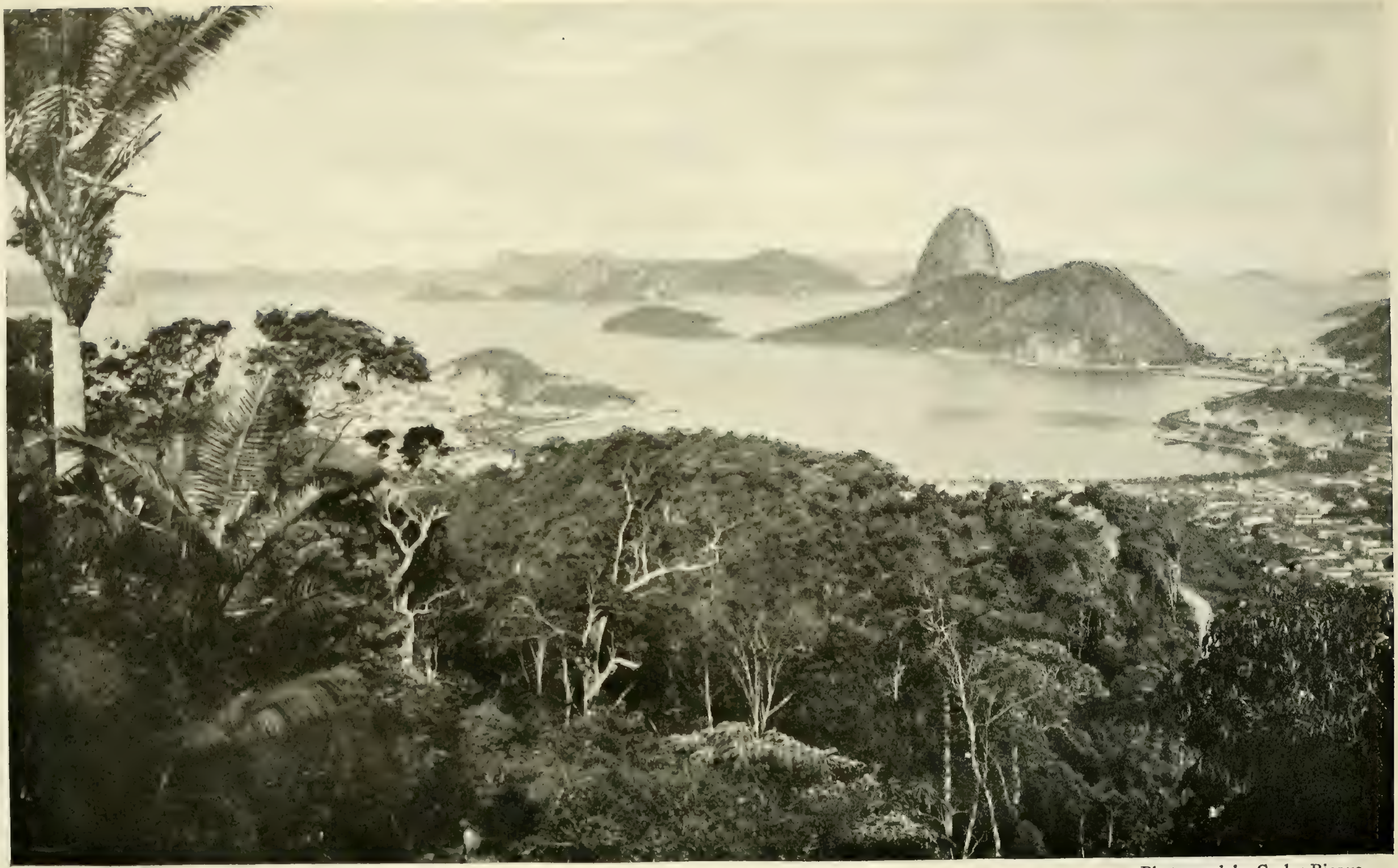
There is a range of hills between these ocean beaches and the city. Tramway tunnels pierce these hills. The ocean avenue, the Atlantica, is by the sea, in front of all these ocean resorts. Many people live here all the year; others come for the summer. The Country Club is on the beach Ipanema, beyond. The surf here is treacherous, and on the bathing beaches there are life-boats offshore, as well as lookouts, expert swimmers, stationed in high posts.



Photograph from Harriet Chalmers Adams

BOTAFOGO SHORE, BAY FRONT, TO THE RIGHT; SEA FRONT TO LEFT: RIO DE JANEIRO

This remarkable photograph shows both the bay and ocean shores of Rio, affording a clear idea of how the two beaches, bay and sea, are connected by tunnels through the hills. The photograph was made from Sugar Loaf. In the foreground is Urça, the hill or rock connected with Sugar Loaf by aërial ropeway. Nothing can be more striking than the effect of these huge rounded masses of naked rock rising out of the most luxuriant vegetation.



Photograph by Carlos Bippus

RIO DE JANEIRO FROM SANTA THEREZA HILL

Rio's loveliest suburb is in the forested mountains back of the city, a trolley ride of 25 minutes from Carioca Square down in the level part of town, near the bay front. The trolley follows the windings of the ancient Carioca aqueduct. In this forest the wild birds congregate, with their cheery whistling and limpid song. We are looking down on the crescent of Botafogo, one of the bay beaches of Rio, to the site of the exposition buildings, which are on Vermelha Beach; on Sugar Loaf, including Urça; the peninsula adjoining Sugar Loaf, on which one of the forts is situated; the narrow entrance to the bay, and the shore across the bay. All beyond Sugar Loaf is the ocean.

blue," crowned by the reddish brown of weather-beaten tiles.

In the gardens of these homes tower royal palms, great jaqueira trees heavy with fruit, wide-spreading mangos, and South Brazilian Paraná pines with straight betasseled branches. These noble trees, foreign to Rio's hills, tell us that the gardens were planted back in the first Dom Pedro's day, or perhaps in the time of his father, Dom João the Sixth.

RIO HONORS THE MOTHER OF BRAZIL'S BEAUTIFUL PALMS

In 1808 Portuguese royalty fled from Napoleonic despotism in Europe to set up its court in Brazil, and the following year the prince regent, afterward Dom João VI, imported the royal palm of the Antilles and planted it in the botanical gardens of Rio. Here the original palm still stands.

"Our Mother Palm was sick some years ago," a Brazilian told me, "and we were greatly alarmed lest she should die. From this single specimen have come all the wonderful palms which beautify our parks and avenues. We treated our royal patient with care, gave her a medicinal bath, and she recovered."

I went out to call on this historic tree. With all its one hundred and twelve feet of height, it does not look hardy. The director of the botanical gardens, however, assured me that it is now free from the ravages of insects and will live for many years. On the railing surrounding the palm is a plaque with this inscription:

> *Oreodoxa Oleraçea.*
>
> Planted by Dom João VI.
>
> The Palm Mother.
>
> Those of her species are cultivated in the country.

Near the palm is a bust of Dom João, whose forethought and love of gardens greatly enriched the flora of Brazil. During his reign, valuable Asiatic trees, such as the mango, jaqueira, breadfruit, and tamarind, and many of the Old World flowering trees which glorify Rio's hills, then came to Brazil through Portugal's far-flung colonies in Asia and Africa; or were brought from Cayenne, in French Guiana, then known as the Isle of France, where the French maintained a botanical garden from a very early period.

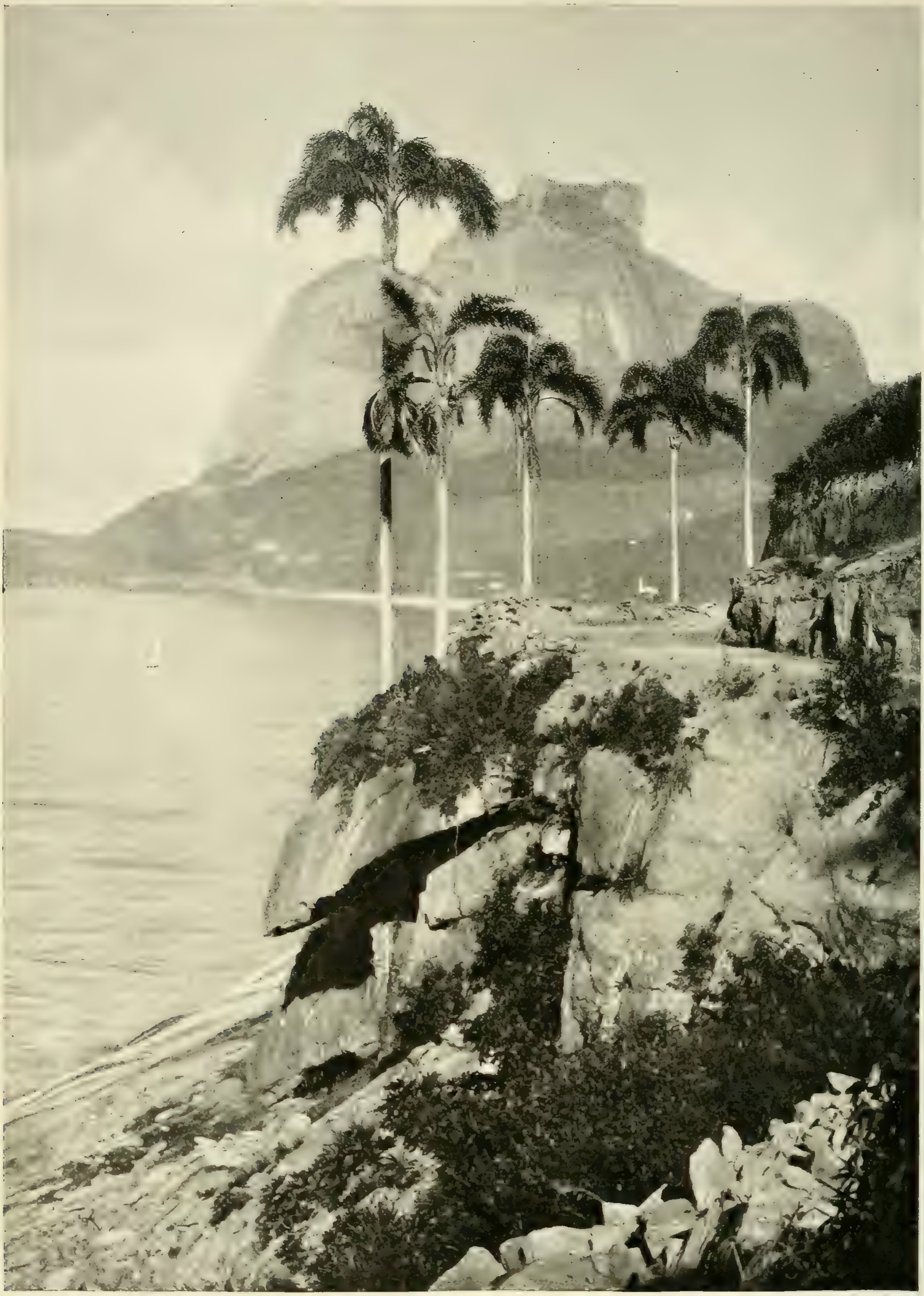
In the old gardens are other marks of bygone days besides the venerable trees. Here and there is a wall faced with blue and white Dutch tiles, which found their way to Brazil when Holland invaded its northern coast, in the seventeenth century. On some of the tall gate-posts stand big blue or yellow porcelain ornaments in the form of pineapples, imported from Portugal one hundred or more years ago. "They bring good luck to the household," an old servant told me.

Color runs riot. The purple bougainvillea here grows to be a tree; the flaming poinsettia becomes a giant bush. There is the glowing coral vine; the hibiscus in red and in rose; the violet and lavender manacá. Brilliant variegated crotons border the paths. Most conspicuous are the gorgeous flowering trees, such as the native cassia, or "golden shower," whose yellow clusters resemble the wistaria; the West Indian salmon and red frangipani of fragrant memory; and the flamboyant, or royal pointiana of Madagascar, the joy of the garden.

SOME OF THE CITY'S CLIFF DWELLINGS ARE ENTERED FROM THE ROOF

To me the modern architecture of the city houses is much too ornate. Rio de Janeiro is like a lovely woman, who needs little embellishment. Here buildings on simple lines are best. All the houses, however, have the redeeming quality of varied and vivid coloring, which, combined with terra-cotta earth and emerald foliage, forms one of the most attractive features of the city. While terra-cotta, in soil, roofs, and garden walls, is the predominating tone, almost every shade is represented in this iridescent town.

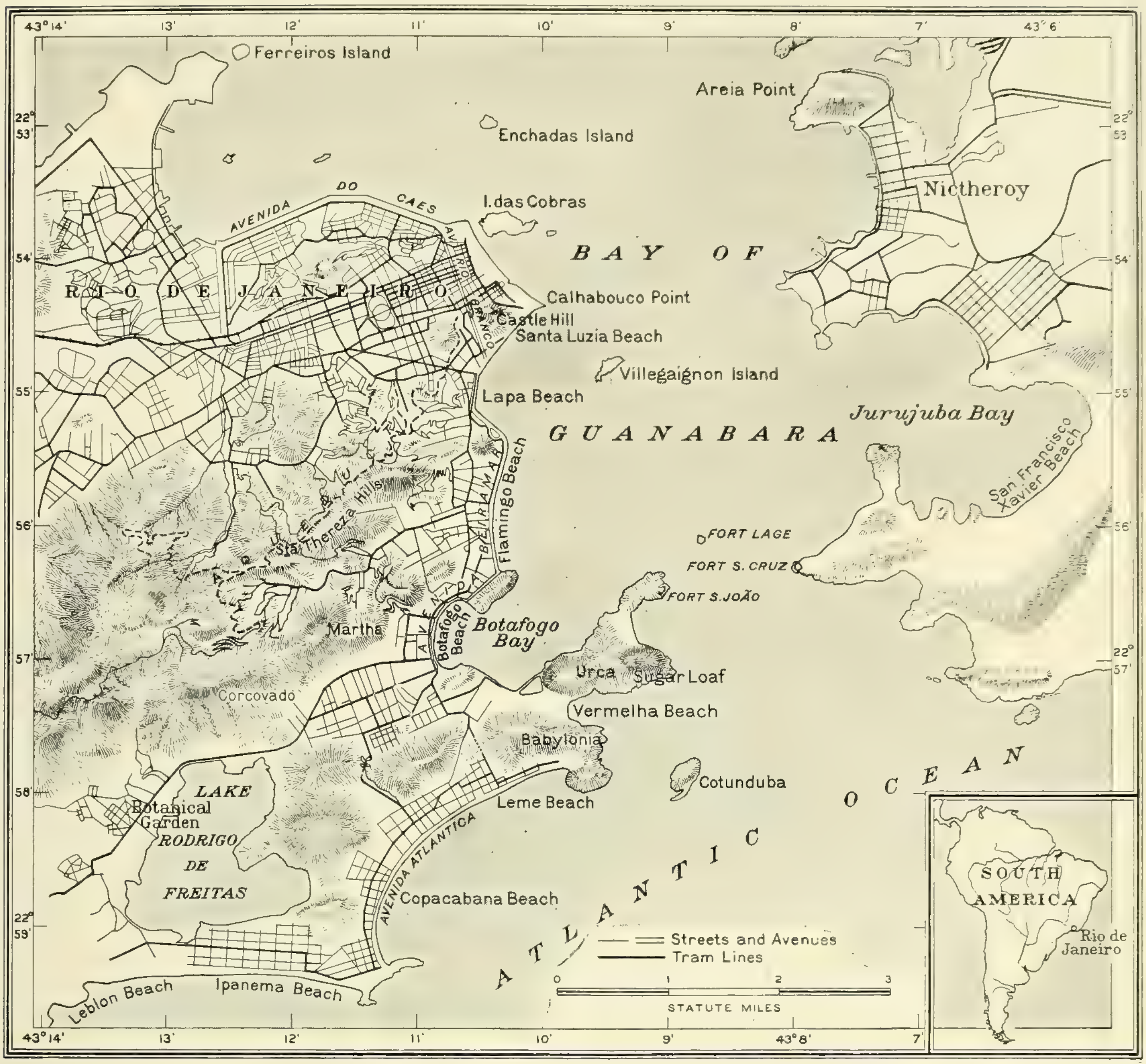
Many of the new homes cling to the hillside below the street and are entered from the roof. Others of these cliff-dwellings perch high above the thoroughfare and are reached by a long flight of steps or by elevator on an inclined plane. Some bear the name of the lady of the manor over the front door—"Villa Ro-



Photograph by Carlos Bippus

AVENIDA NIEMEYER, BY THE SEA, AND GAVEA ROCK

This avenue is a continuation of the Avenida Altantica and connects Leblon Beach with Gavea Beach. The Rock of Gavea (which means "The Sail") is the most beautiful in form of the many sentinel rocks which stand guard on Rio's shore and hinterland.



Drawn by A. H. Bumstead

A MAP OF RIO DE JANEIRO, ITS FAMOUS BAY AND SURROUNDING HILLS

sita," "Villa Lucia"—and the dark-eyed lady herself is often seen leaning from the window.

Although the women of the capital have now evolved to a much freer life than that of their provincial sisters, they are on the street less than Northern women and are, on the whole, greater home-lovers.

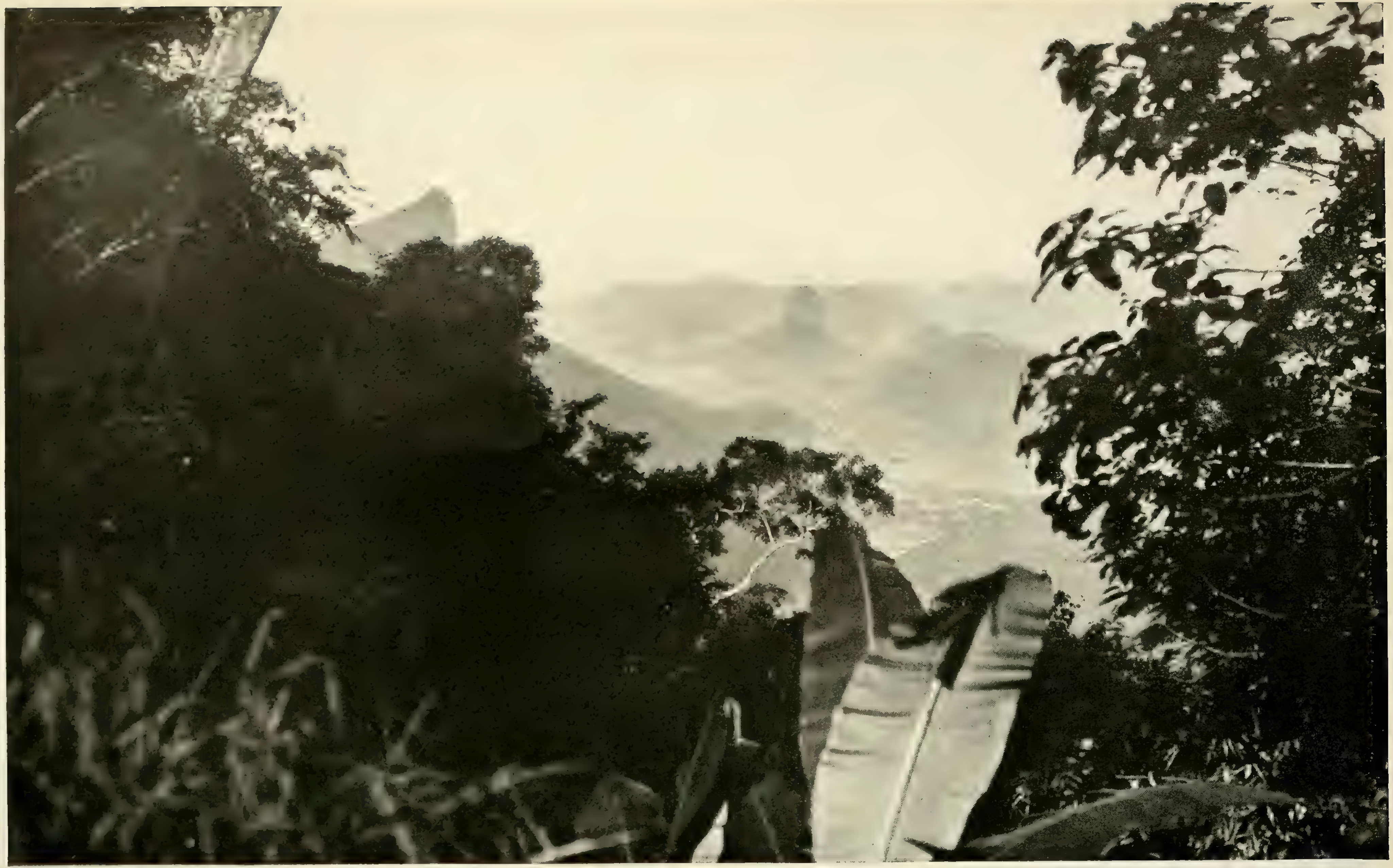
Butterflies and birds gladden every garden; but it is on Santa Thereza Hill that the forest birds congregate in greatest numbers. They wakened me early every morning with their cheery whistling and limpid song. The bird that plays star rôle all day long is the sabiá, beloved of Brazilian poets. They always have it perched high in the palm tree, but in reality it hides in the bush.

There are several varieties of the sabiá,—of the forest and of the shore—birds about the size of a robin. The woody-colored one with the orange breast, *Sabiá larangeira,* is the sweetest singer.

In variety of form and coloring the birds of Brazil, like the butterflies, outclass those of other parts of the world. Recently, in London, a Brazilian butterfly sold for $150.

STREET VENDERS CLAP THEIR HANDS TO ADVERTISE

Many and varied are the street venders, who sing their wares and clap their hands at the garden gate to attract attention. There are men who balance burdens on their heads and others who bear



Photograph by Harriet Chalmers Adams

FROM THE HEIGHTS NEAR CHINESE VIEW, WHICH MANY PEOPLE BELIEVE TO BE THE PLACE OF PLACES FOR "THE VIEW": RIO DE JANEIRO

From this vantage point one sees the ocean beaches and sea and the entrance to the bay rather than Rio. The "Chinese view," so called on account of the pagoda-shaped pavilion on the mountain where the visitor takes his stand, is a scenic crescendo of mountain peak and shore framed by the riotous foliage of a tropic forest.

weights on their shoulders, the former being more in evidence.

The custom among the working classes of bearing burdens on the head is a survival of slavery days. Everything is carried in this fashion, from a tin pan to a piano. It takes four men to carry a piano; but one man alone balances the gigantic bread-basket, weighing close to ninety pounds, toiling with it up the steep paths, one hand steadying the basket, the other grasping a camp-stool. I thought the camp-stool was for the man to rest on; but no! it is for the Honorable Bread-basket!

There are more than fifteen hundred of these bread men, each exhibiting the number of his license on the basket or attached to the formidable leather purse, resembling a woman's ordinary handbag, which the Rio street vender invariably wears on his hip, suspended from his shoulder by a long strap. Other characteristic features are the *tamancos,* or heelless wooden slippers, whose rhythmic "clap-clap" is heard in every part of the city, and the circular wad of cloth, once white, worn on the head as a cushion for the burden.

Every vender has his particular call. The tin-pan merchant thumps his wares with a big spoon; the Syrian who sells Ceará lace beats his basket with his yardstick; the strange minor wail of the peanut-seller takes you back to the Orient. There is, in fact, quite an Oriental touch to the city.

THE SACRED OX OF INDIA IS RIO'S BEAST OF BURDEN

When I was a child in California, the Chinese coolie, who sold us vegetables and gave me "China lilies" and dried litchi "nuts," came to the kitchen door every morning carrying six circular baskets suspended in groups of three on the ends of a pole slung across his shoulders. In just this manner the vegetable and chicken sellers of Rio carry their wares. It is, I believe, a survival among those customs which reached Portugal through her Far Eastern colonies.

A more tangible evidence of this influence is seen in the fawn or cream-colored zebu, sacred ox of India, used as a beast of burden on the hills of the Brazilian capital. Here, as in Portugal, oxen are yoked by the shoulders instead of by the horns, as in Spanish lands.

On the level streets of the city, mingling with countless head-bearers, are carters trudging beside their mule teams, men trundling hand-trucks, and cake-sellers with wares in boxes on wheels. These last named are popular, as the Brazilians are very fond of sweets. A unique sight is a cart with two huge wheels, carrying granite blocks or great logs suspended by chains from the axle.

HISTORIC INTEREST IS AT HAND

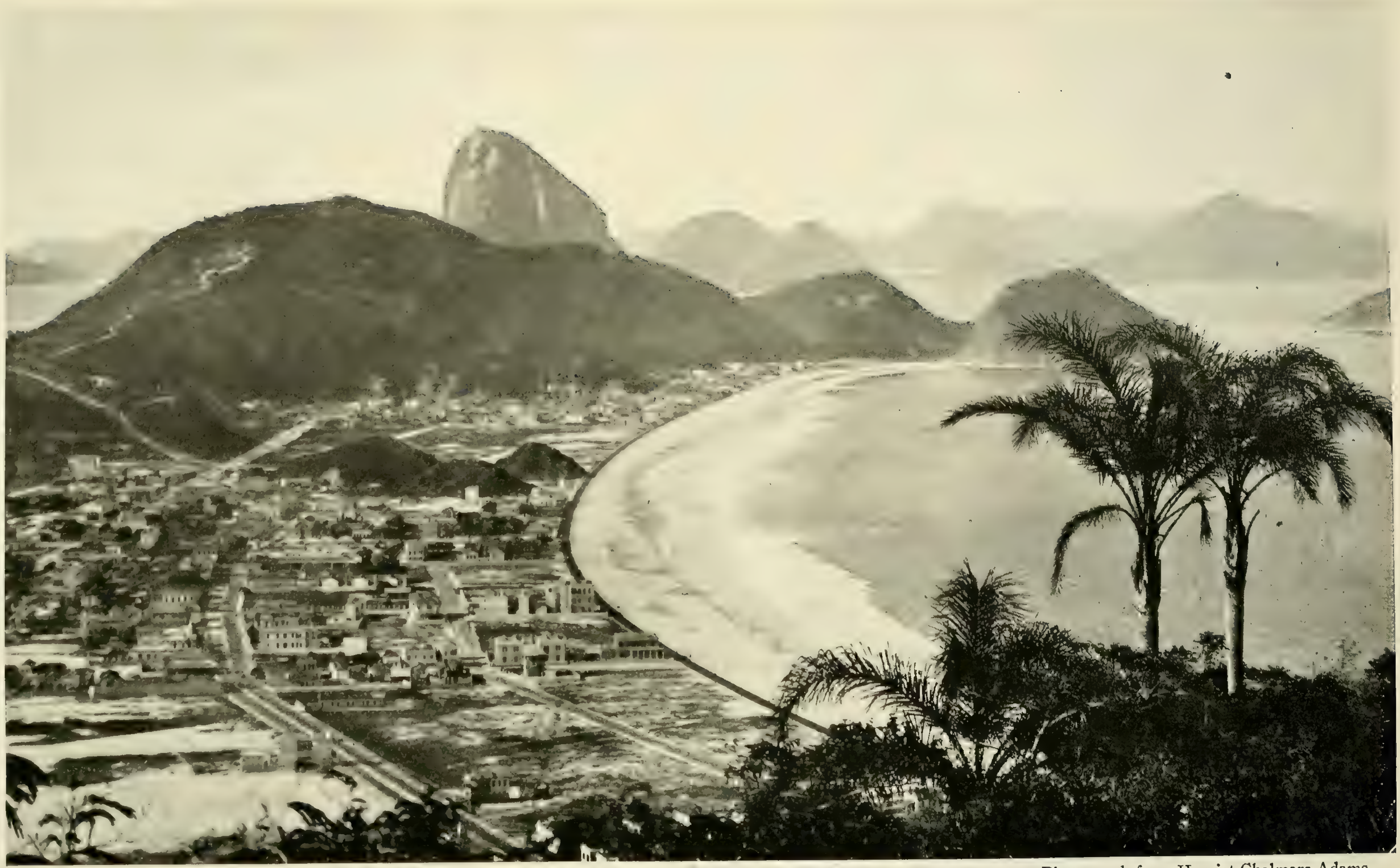
"Yes, Rio has many picturesque types," an American resident admitted, "but it is so utterly devoid of historic interest."

To this I cannot agree. History is there for those who search.

The first great name that flares up is that of Pedro Alvares Cabral, the intrepid Portuguese navigator, who in 1500, started out to follow the course of the Phœnicians around Africa, as described by Herodotus, and drifted West to Brazil instead.

In the Portuguese library in Rio hangs a painting depicting that memorable Easter Sunday when Cabral first sighted the shores of a new country, dimly visible on the far horizon. He leans on the caravel's rail peering out over the waters—a tall, swarthy, bearded man, clad in the doublet, knee-breeches, and long hose of the period. Behind him stand two sailors, on whose faces joy and awe are mingled. It was in a little port south of Bahia that the thirteen ships of the fleet cast anchor and on its shore the first mass in Brazil was celebrated.

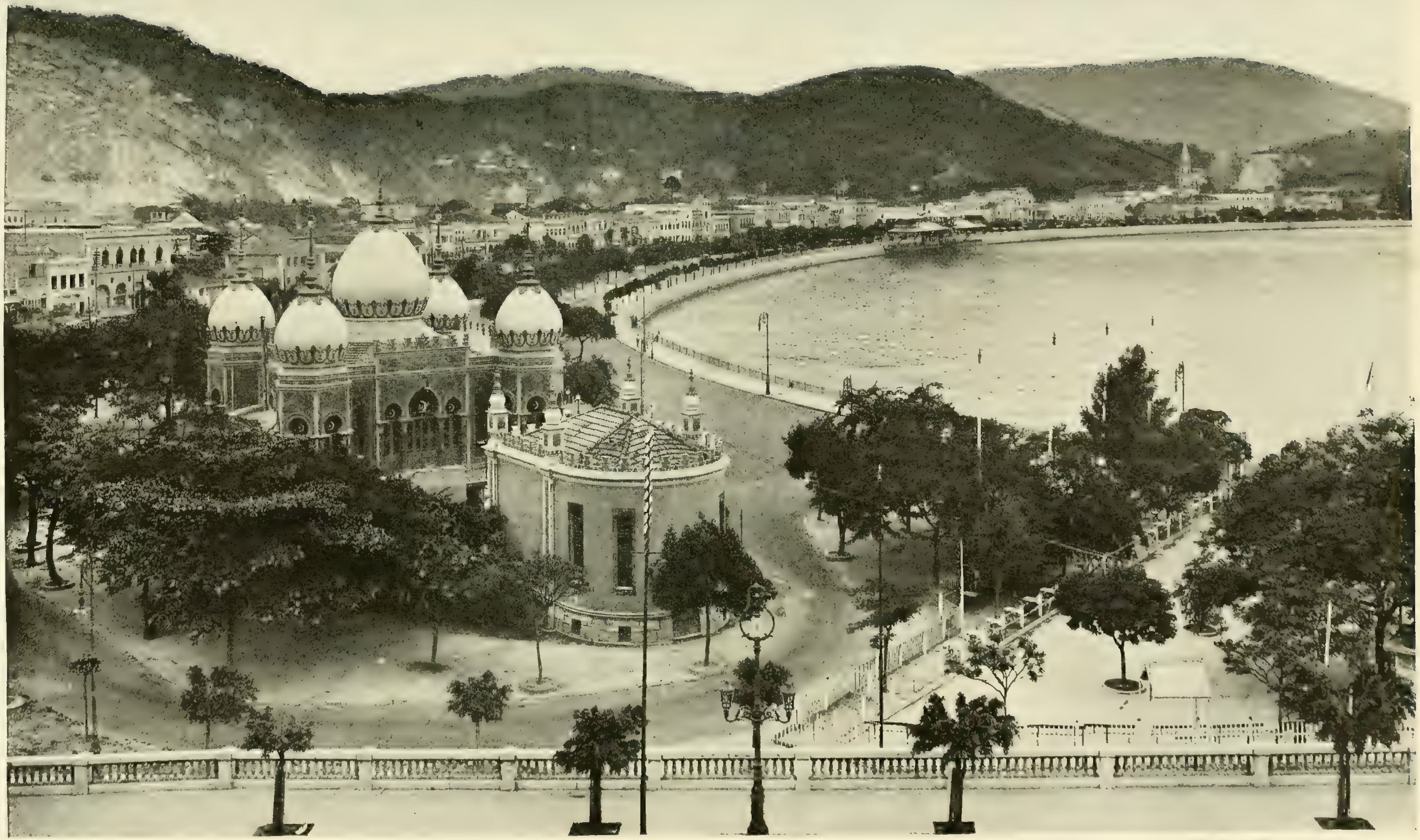
In the National Library I saw the original letter sent to the King of Portugal by a certain Pedro Vaz de Caminha, announcing Cabral's discovery. Where Gloria Park meets the splendid Beira Mar Drive, skirting the bay, stands the imposing monument erected to the memory of Cabral three centuries after the discovery. In the cathedral, in a vault to the right of the high altar, are the remains of the great navigator, brought from Portugal in 1903 and here reverently interred. Just so the remains of Christopher Columbus were long ago



Photograph from Harriet Chalmers Adams

COPACABANA, ONE OF THE ATLANTIC BEACHES, A SUBURB OF RIO DE JANEIRO

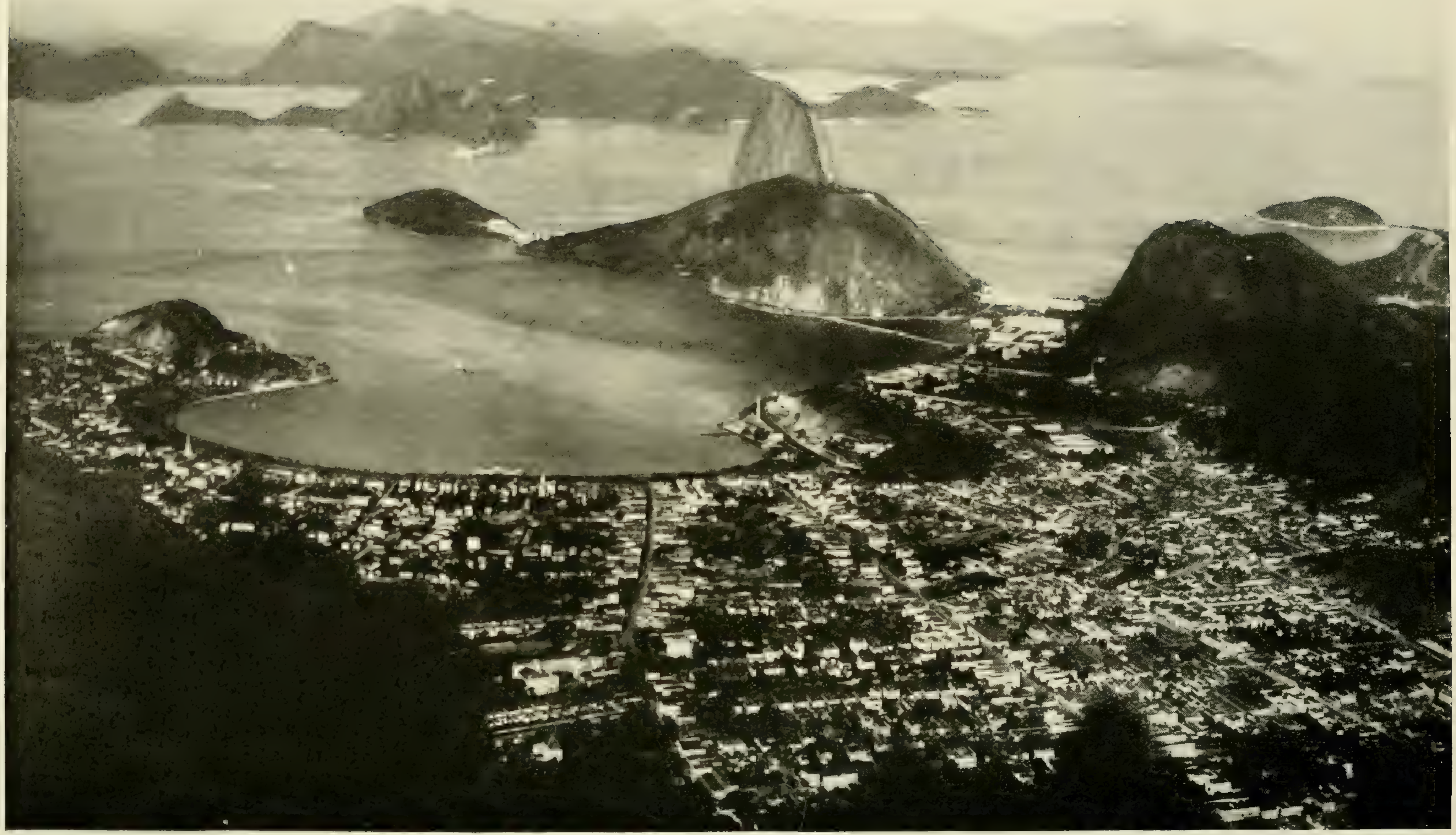
The lofty peak is Sugar Loaf (Pão d'Assucar), which guards the entrance to the bay. There are three other ocean beaches adjoining Copacabana. Paralleling the Avenida Atlantica, which connects the ocean beaches, is a wide black-and-white mosaic pavement in most approved Lisbon fashion.



Photograph from Harriet Chalmers Adams

MORISCO RESTAURANT OR PAVILION ON BEIRA MAR DRIVE: RIO DE JANEIRO

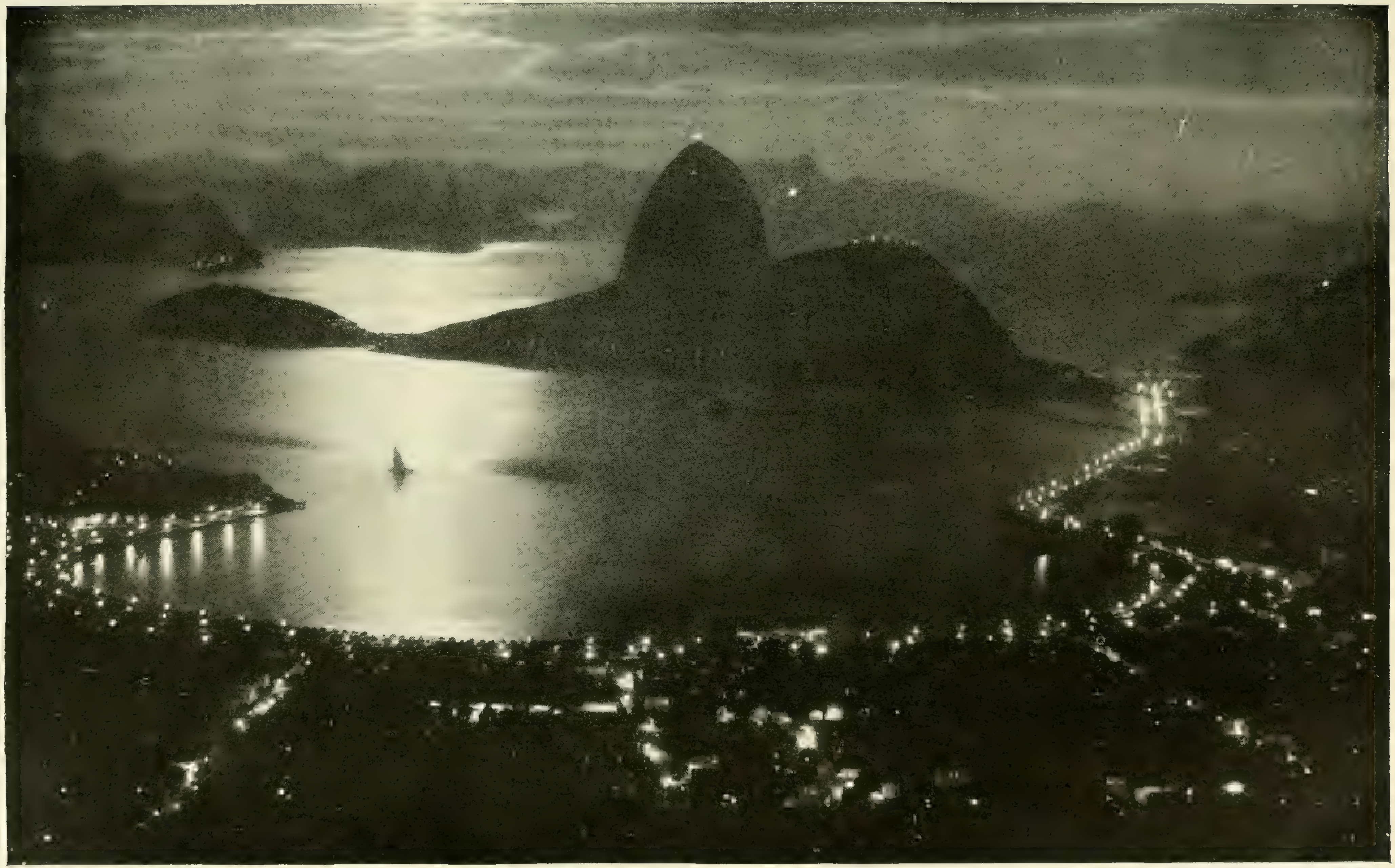
There are several of these cafés along the bay and sea shores. People come for afternoon tea and supper. This is the Botafogo shore, bay front.



Photograph by Carlos Bippus

LOOKING DOWN ON THE CRESCENT OF BOTAFOGO: RIO DE JANEIRO

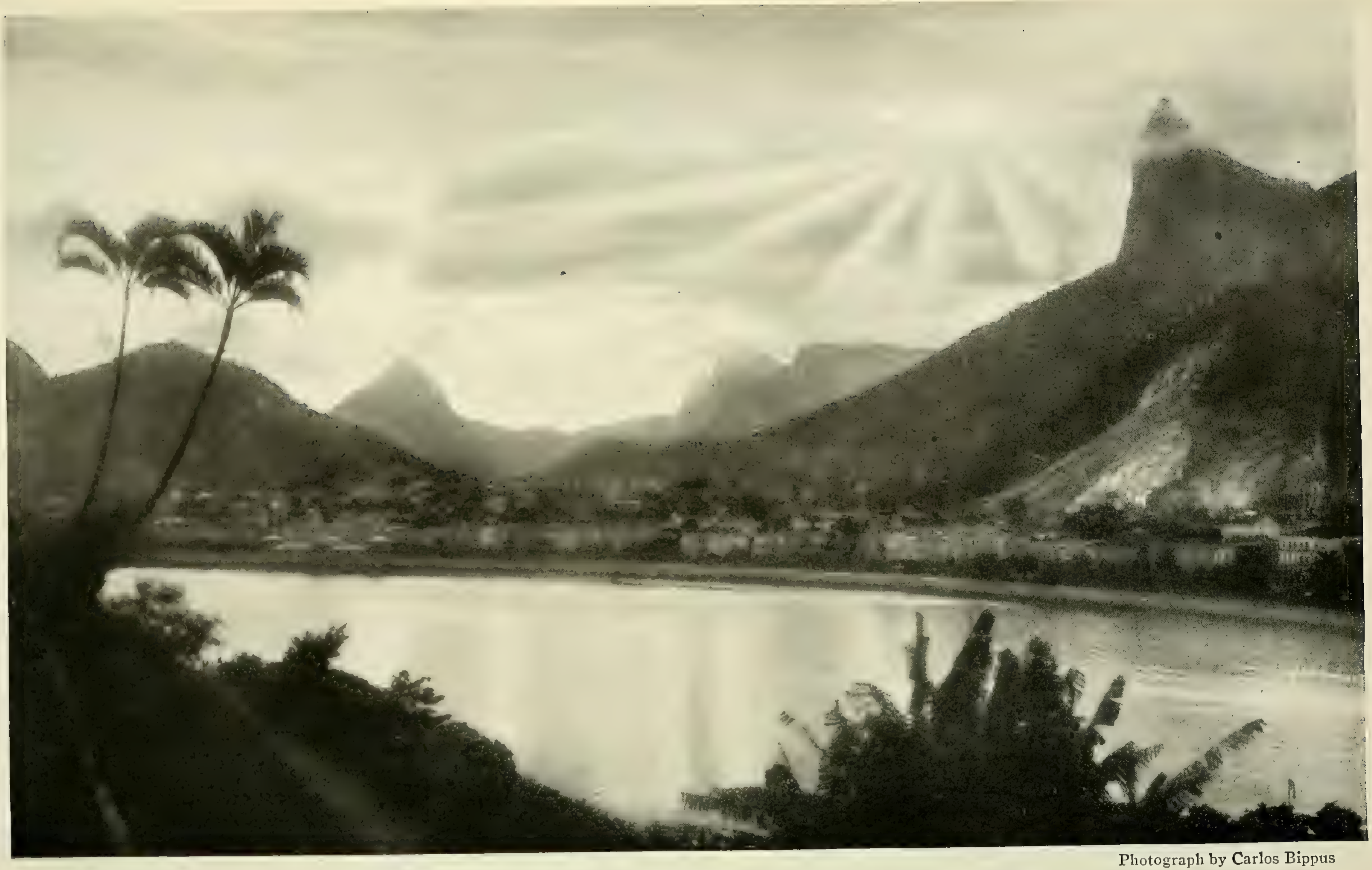
The little boats in the bay are native "faluas." The white speck near the entrance to the harbor is a rock with a fort (Fort Lage). The fort on the other side of the entrance is Santa Cruz and the one on this side is Fort São João.



Photograph by Carlos Bippus

BOTAFOGO AT NIGHT

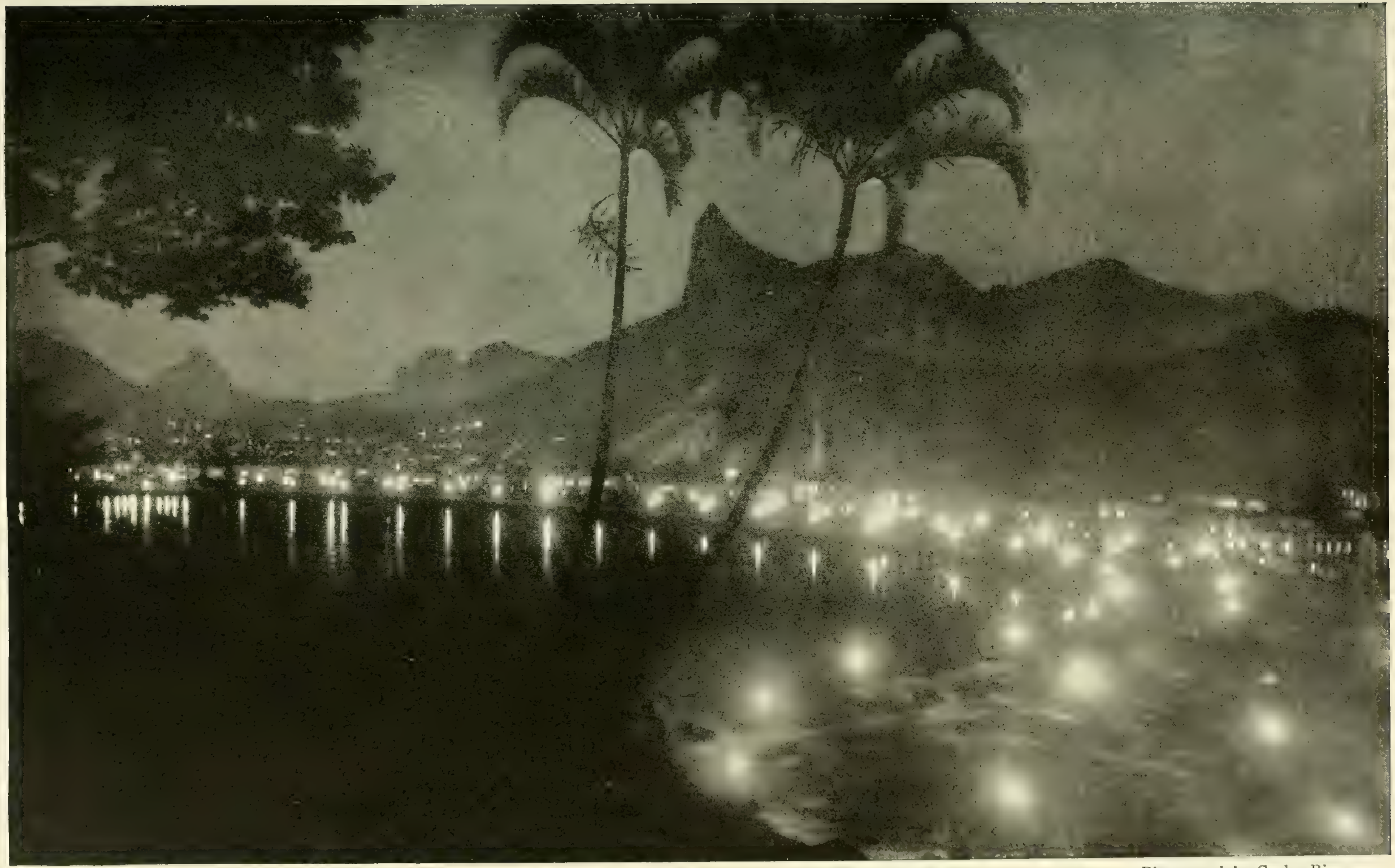
Sugar Loaf and the entrance to the bay, with Fort São João on the rock adjoining Sugar Loaf and Fort Santa Cruz on the opposite point, are distinguishable. It is a nautical mile between these two forts at the entrance to the bay. This is a night view of the scene shown on the preceding page. The electricity, generated by water-power, comes from the mountains, 51 miles away.



Photograph by Carlos Bippus

CRESCENT OF BOTAFOGO, LATE AFTERNOON EFFECT: RIO DE JANEIRO

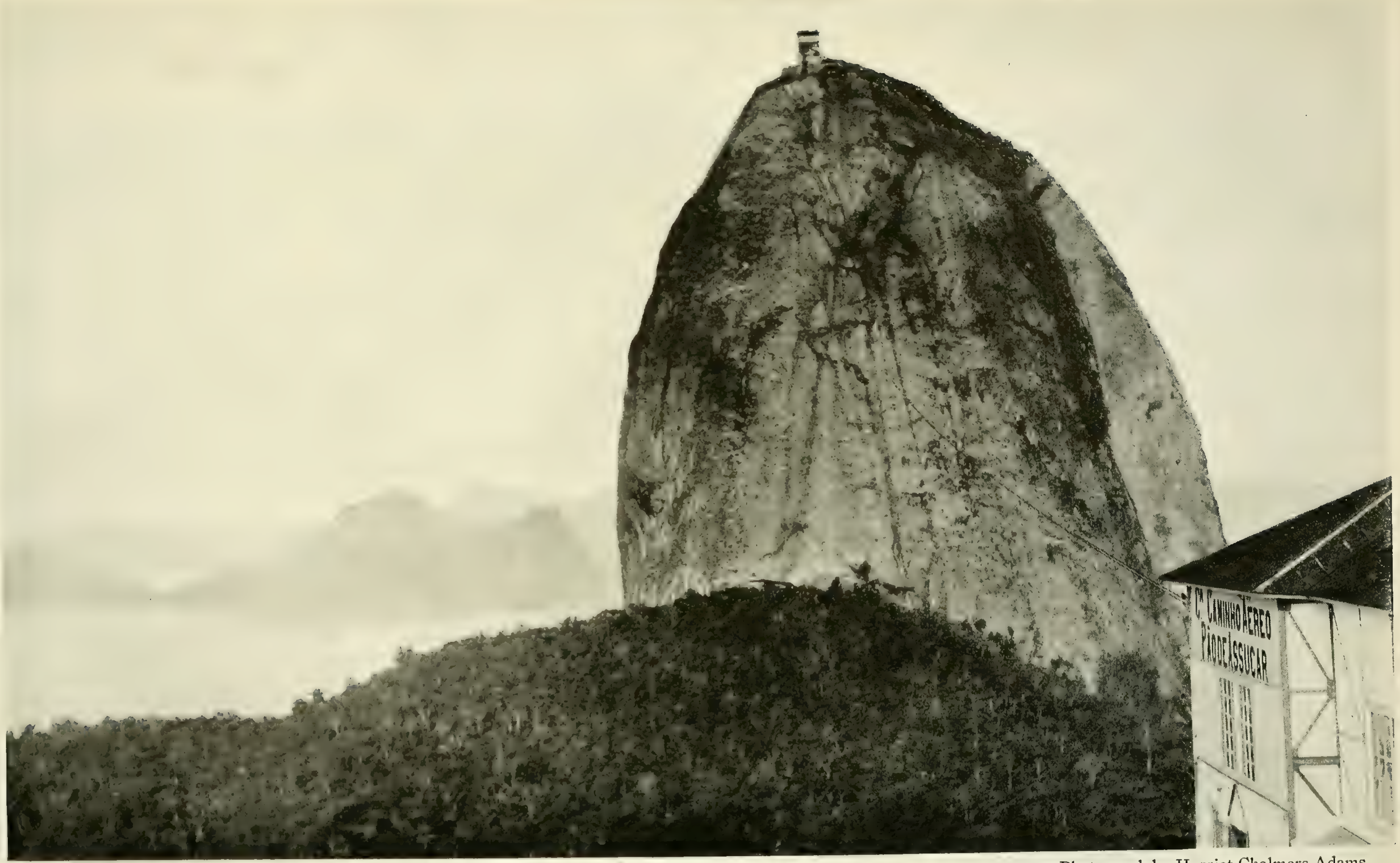
There has been some talk about filling in the bay of the Botafogo crescent to win more land space and because some believe there is not sufficient tide here to flush the inlet, which is a little bay within the bay, as it were. It would be a great pity, as this is one of the most beautiful parts of the shore. The Beira Mar ("By the Sea") Drive skirts this shore and others of the bay side of the city, connecting through a tunnel with the Avenida Atlantica, the ocean boulevard. In early colonial days Botafogo, a fashionable residential suburb, was some distance from the city, but the city grew to embrace it and to extend far beyond this crescent bay.



Photograph by Carlos Bippus

THE CRESCENT OF BOTAFOGO ILLUMINATED: RIO DE JANEIRO

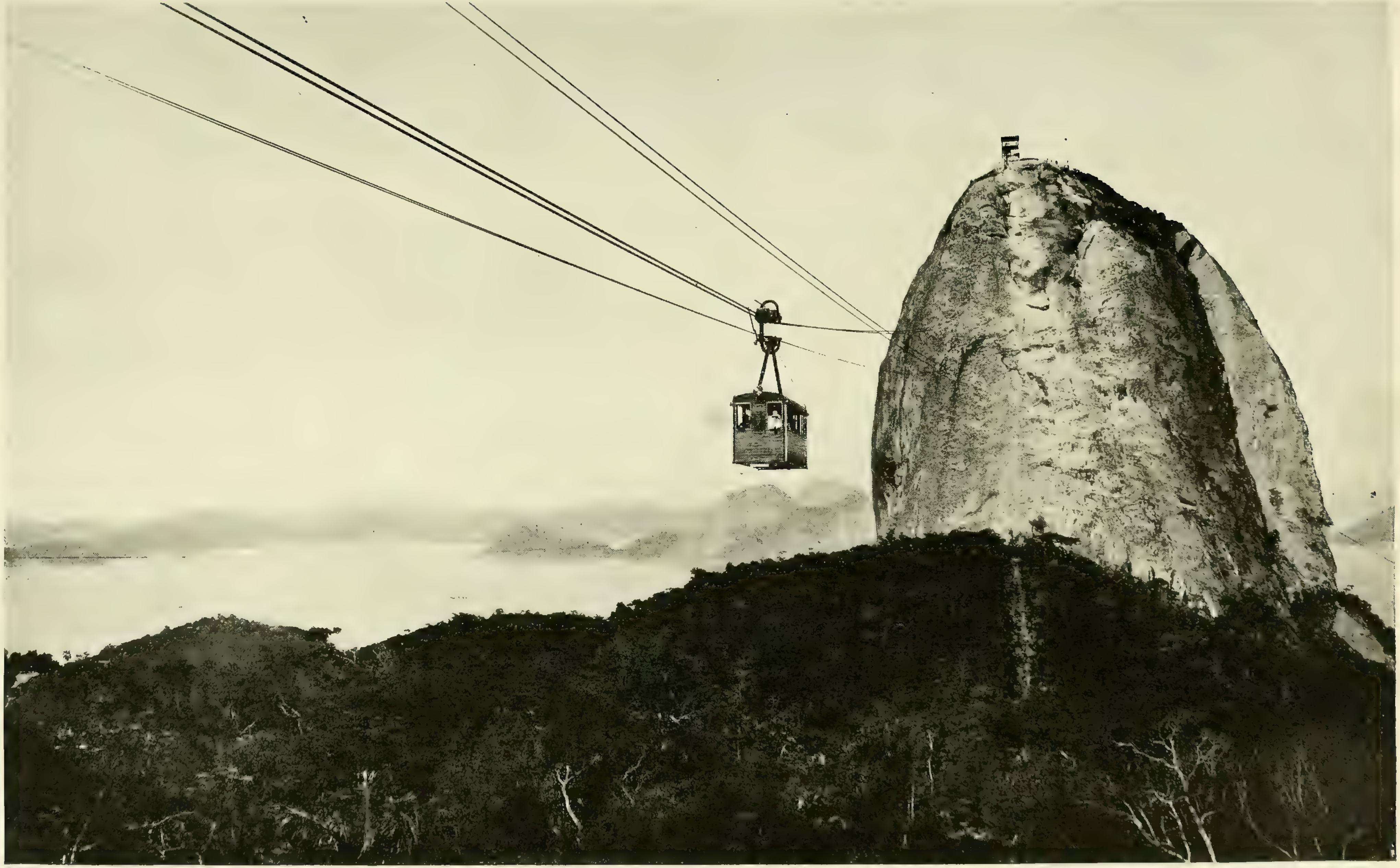
These crescent shores are beautiful, and this crescentic form of shore is seen all along the bay and ocean side of the city. Since we count the ocean beaches as a part of Greater Rio, the city can be said to face both bay and sea.



Photograph by Harriet Chalmers Adams

SUGAR LOAF, THE GRANITE ROCK WHICH STANDS GUARD AT THE ENTRANCE TO THE BAY OF GUANABARA

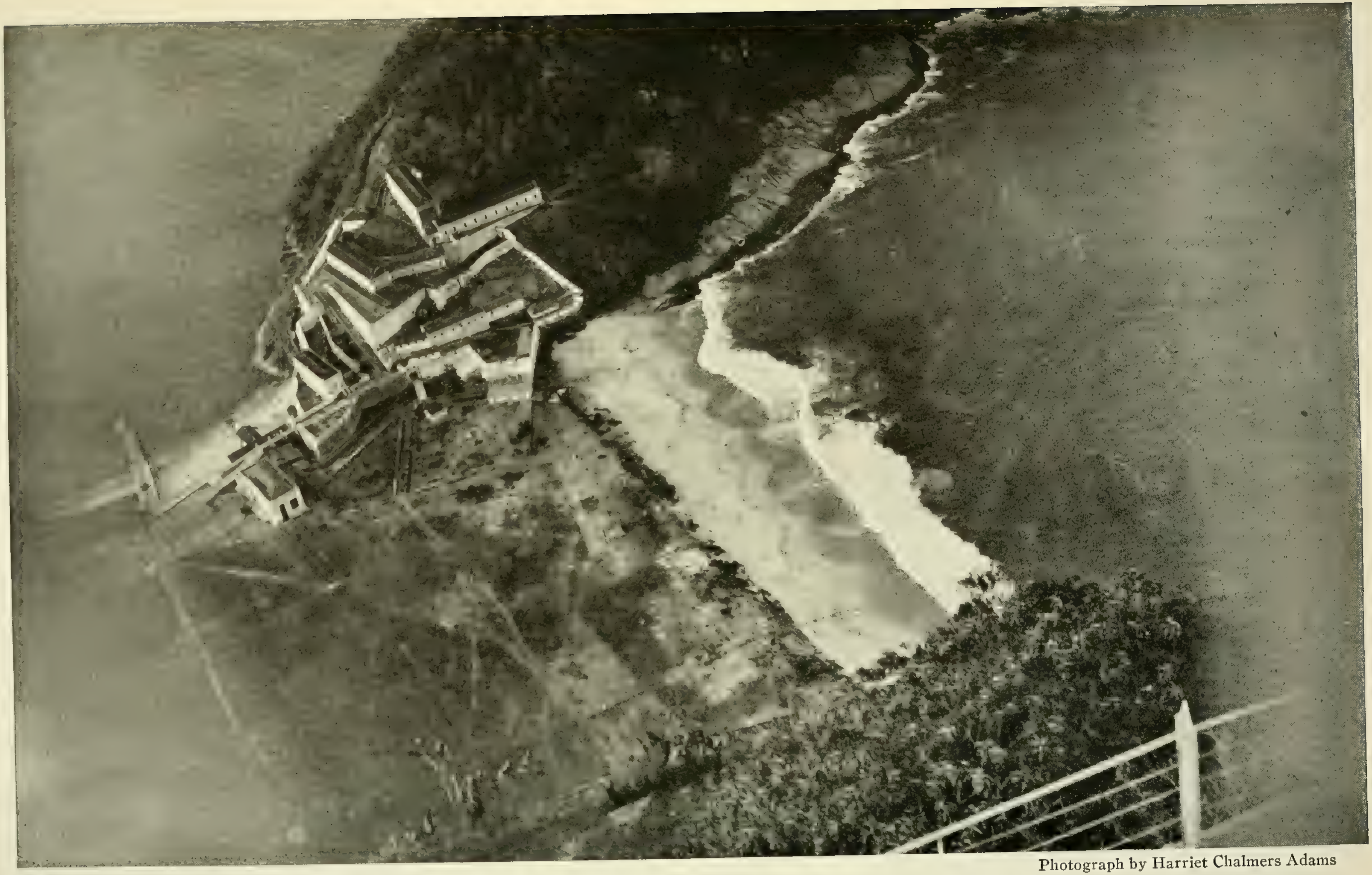
The early settlers called it the Dog's Face. The forest in the foreground lies between Sugar Loaf and a rock nearer the Rio shore, called Urça. The summit of Urça is reached in one flight by aërial ropeway (car suspended on a cable). A second and longer flight on a steep incline is made over the forest to the summit of Sugar Loaf, where there is a view in every direction, looking back on Rio and its mountain hinterland; the bay, with its many islands; the town of Nictheroy (gleaming white in the distance), across the bay from Rio, and the Atlantic Ocean, outside the harbor, with its lovely beaches—an incomparable view.



Photograph from Harriet Chalmers Adams

A BRAZILIAN ENGINEER CONCEIVED THE IDEA OF THIS AËRIAL ROPEWAY TO SUGAR LOAF, THE 1,383-FOOT SENTINEL OF RIO BAY

The peak had been scaled by a British middy, who raised the Union Jack, and by a girl from the United States, who unfurled the Stars and Stripes. The car accommodates twenty passengers. The counterweight of each cable is thirty tons, and the fixed cables offer a resistance of 150 tons each. Some people are timid about making this aërial trip. It is like sailing in a balloon (see text, page 210).



Photograph by Harriet Chalmers Adams

AN AËRIAL VIEW OF THE BEACH SITE ON WHICH THE FIRST SETTLEMENT WAS MADE BY ESTACIO DE SÁ, FOUNDER OF RIO

This photograph was taken while sailing up to Sugar Loaf on the aërial ropeway. Estacio de Sá was brought back here to die, after he was wounded on one of the islands in a battle with the Indians (see text, page 185). The building below is one of the forts guarding the entrance to the harbor. To the right is the sea; to the left the bay of Rio.

brought from Spain to the cathedral in Santo Domingo.

THE CITY FOUNDED IN 1565

The first name which stamps itself directly on the history of Rio de Janeiro is that of Estacio de Sá, who founded the city in 1565, although earlier explorers cast anchor in the bay, known to the native Tamoyo Indians as Guanabara—"arm of the ocean."

Historians disagree as to who first entered this marvelously beautiful landlocked haven, Nature's masterpiece in harbors, where gigantic sentinel rocks stand guard at the narrows and mist-crowned mountains of surpassing grandeur dip their jungle-clad feet in the sea. Perhaps Amerigo Vespucci was here in 1502; Gonçalo Coelho, Chief of the Portuguese Navy, may have arrived the same year. Some credit João Dias de Soles with having discovered the harbor in 1515. Certain at least we are that Fernando de Magalhães, whom we call Magellan, spent a fortnight here in 1519, on his way round the world, naming the bay Santa Luzia.

Next came Martim Affonso de Souza in 1531, on his way south to found São* Vicente, near the present site of Santos. He thought the bay the mouth of a great river and called it Rio de Janeiro, River of January. Today the Brazilians of the capital call themselves Fluminense, or river folk.

THE FIRST PROTESTANT SERVICE IN THE NEW WORLD HELD NEAR RIO DE JANEIRO

In 1555 an adventurous Frenchman, Nicolas Durand de Villegaignon, Knight of Malta, arrived with a band of Huguenots, and on an island near the entrance to the bay, still called Villegaignon, was held the first Protestant service in the New World, sixty-five years before the Pilgrim Fathers landed at Plymouth Rock.

It was with the intention of expelling for all time these French colonists that Mem de Sá, Portuguese Governor at Bahia, sent his nephew, Estacio de Sá, with a body of soldiers to found a settlement on Guanabara Bay.

We can picture that primitive village—a crude chapel, a few thatched huts on the little peninsula which lies at the base of the great rock known as Pão d'Assucar, or Sugar Loaf. One shore of the peninsula faces the sea; the other looks out on the bay. The village was called São Sebastião in honor of the Portuguese king, a name that clung to the city well into the nineteenth century. From it Estacio de Sá went forth in 1567 for a final and victorious battle with the French and their Indian allies, but in the struggle he was mortally wounded.

There is an impressive painting depicting the death of de Sá. They had brought him back to the village on the beach, and there, in the shadow of those mighty mountains he had grown to love, which were one day to look down on a great, glittering city, Rio's founder died and was laid to rest in the humble chapel.

HISTORIC CHURCH DOOMED

The settlement was then moved up the bay to the summit of a hill called Morro de Castello, or Castle Hill. Here, in the church of São Sebastião, Rio's oldest edifice, begun in 1567, completed in 1583, and thrice since remodeled, I stood by the tomb of Estacio de Sá. It is marked by a rough stone slab laid in the floor before the altar—stone hewn from the granite hills which encircle the city. In quaint old Portuguese I read:

"Here lies Estacio de Sá, Captain and Conqueror of this land and city. This site was built by the order of Salvador Corrêa de Sá, his cousin, second Captain and Governor, with his arms. This chapel was completed in the year 1583."

The bearded Capuchin monk who showed me about nodded his head in the affirmative when I asked if he thought the hill would be leveled in time for the ever-growing city.

"I fear they will eventually tear down the old church," he said sadly, "and move de Sá's tomb to the cathedral."

"Regular Apaches live on Castle Hill," an American physician told me. "They are a law unto themselves, obey no sani-

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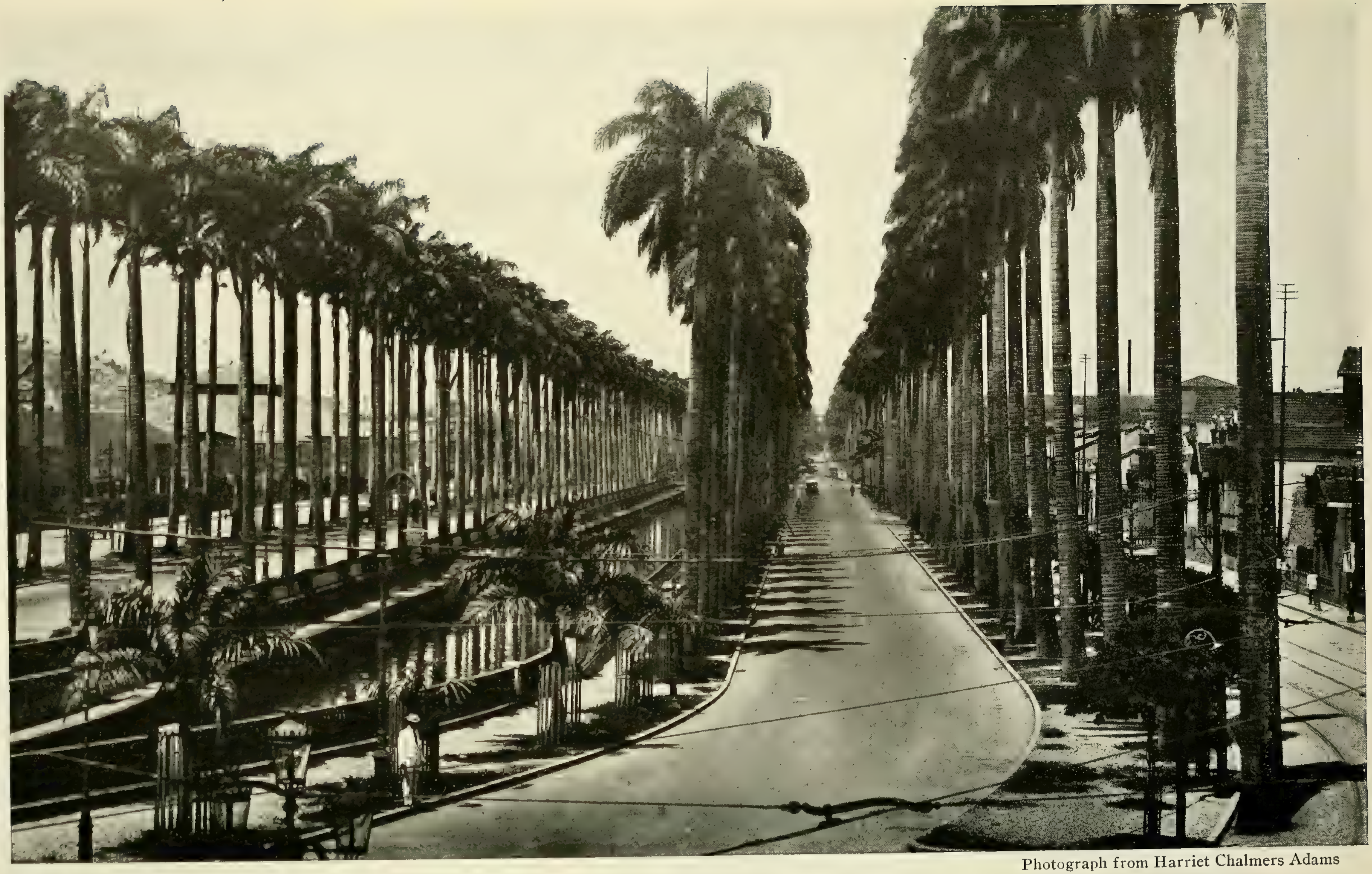
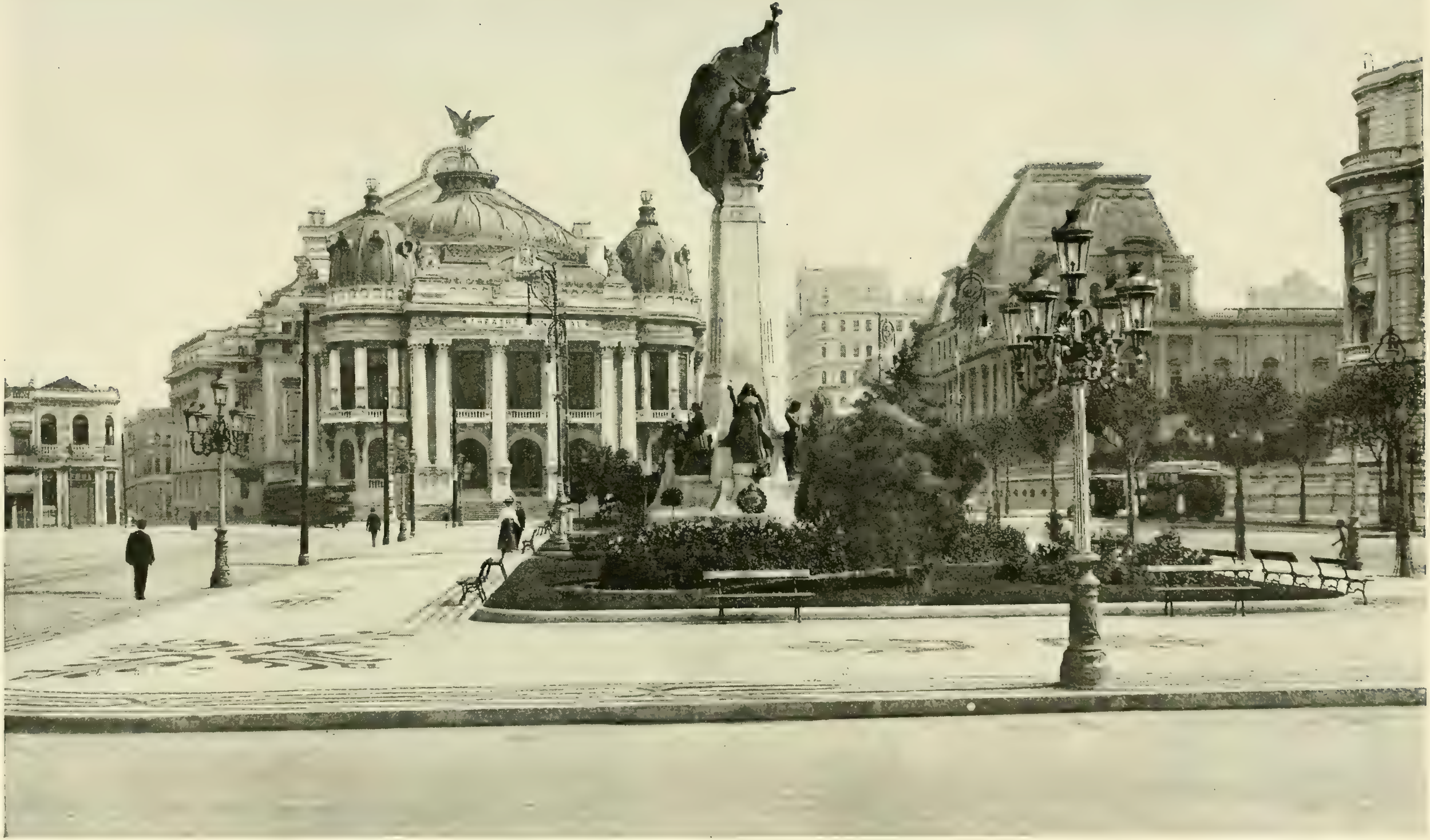
* The word "São," corresponding with the Spanish "San," means "Saint." The Portuguese language, which has been called "the eldest child of Latin," is more masculine and less musical than the Castilian. It is rich in *s's* and *h's*. "The Portuguese," once said my fellow-trailer, "have picked up all the *h's* the Cockney English have dropped."



Photograph from Harriet Chalmers Adams

MANGUE CANAL AND AVENUE WITH THE QUADRUPLE ROWS OF ROYAL PALMS: RIO DE JANEIRO

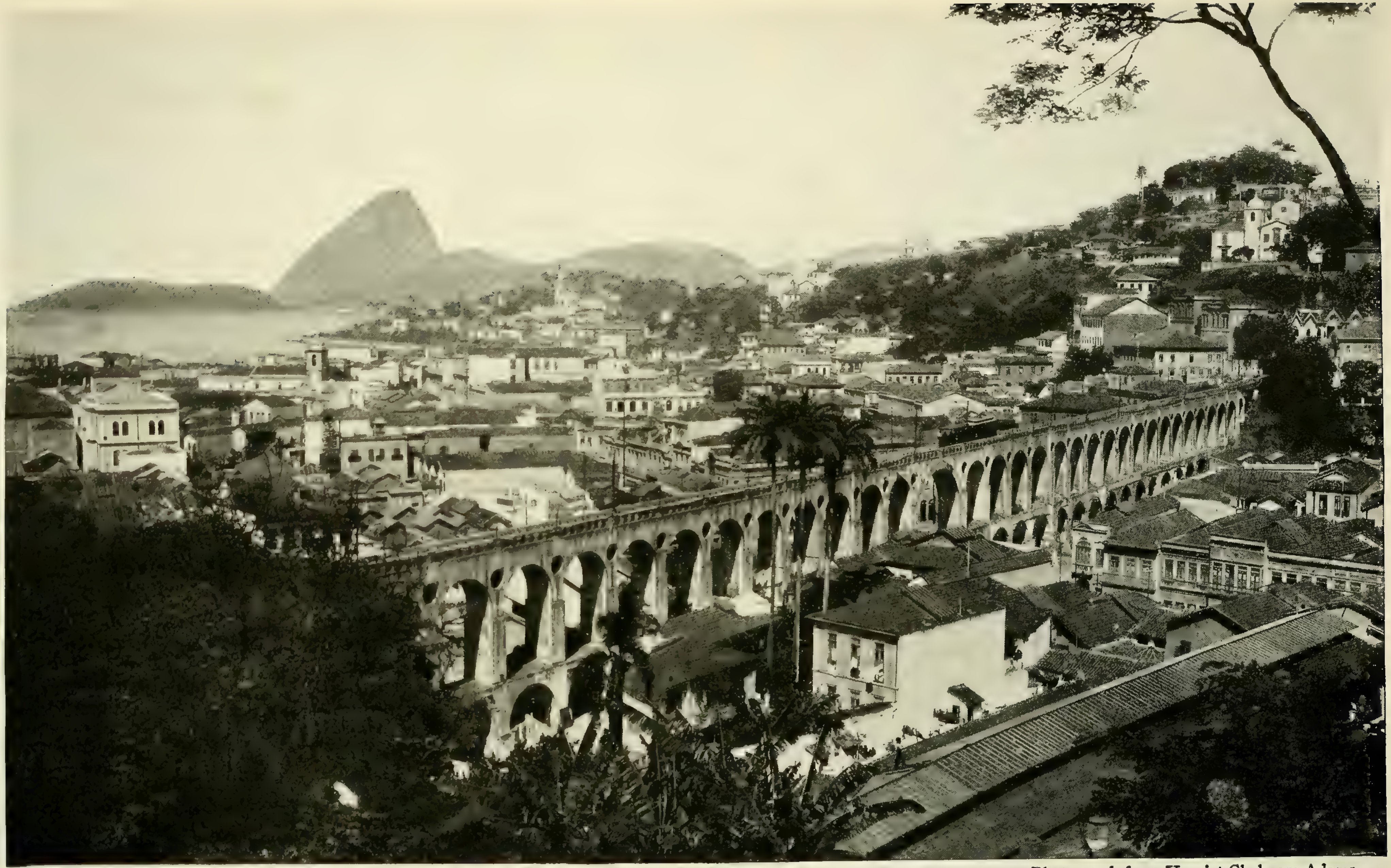
The canal was constructed long ago, to drain an unsanitary portion of old Rio. This is the finest palm avenue in existence. At the end of the avenue near the bay, where new land has been reclaimed recently, the city has planted new trees, which in time will rank with their elders. The Quinta Bôa Vista (see text, page 195) is in this part of the town, which in the days of Dom Pedro I was the country.



Photograph by A. Ribeiro

PRAÇA MARECHAL FLORIANO: RIO DE JANEIRO

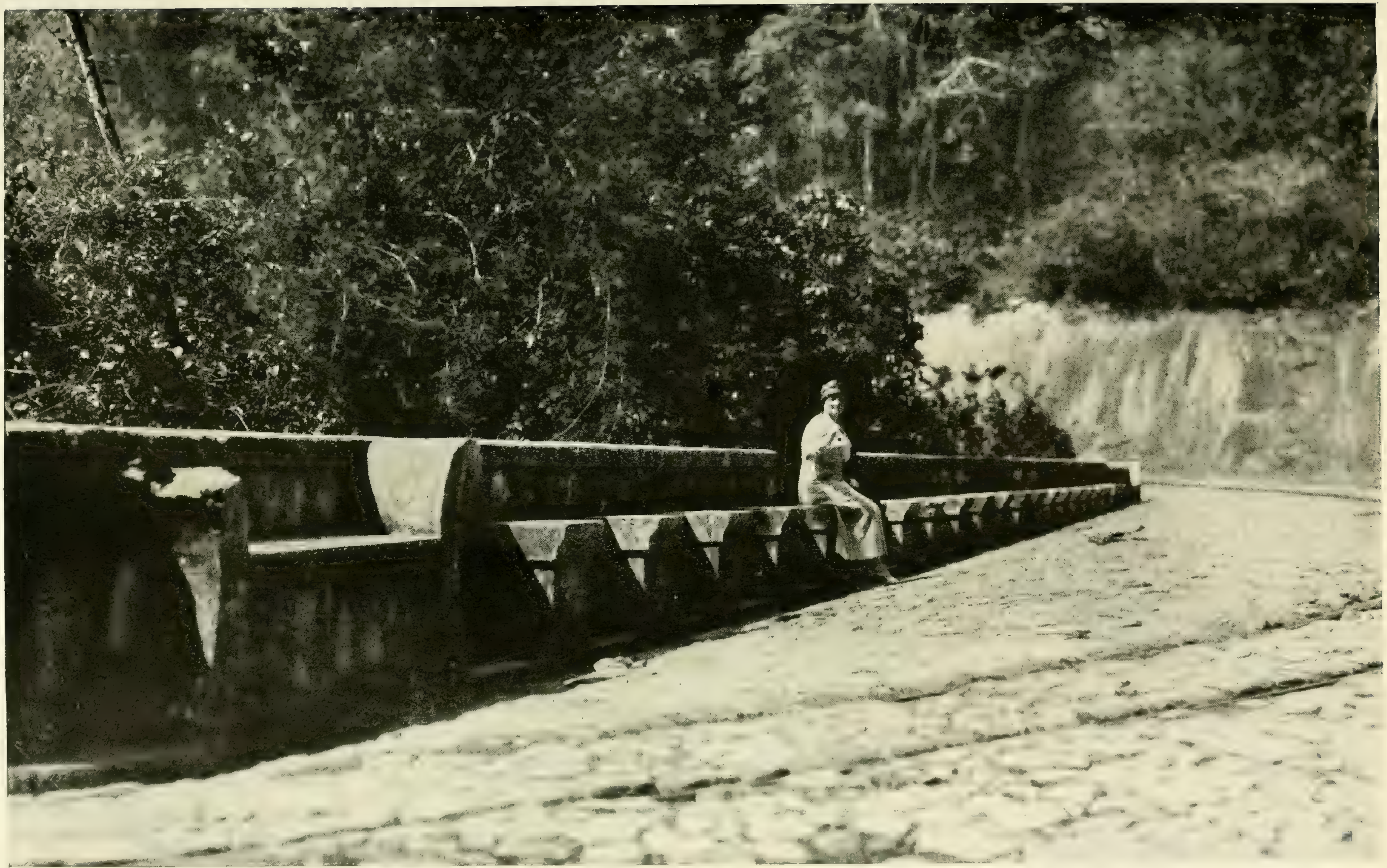
Here the Avenida Rio Branco begins and here connects with the Beira Mar Drive. The Municipal Theater is seen to the left; Bellas Artes and one end of the National Library to the right; statues at the base of the pedestal (four of them) depict the Indians being instructed by a priest who came with de Sá and the redemption of the African slaves. Marshal (marechal in Portuguese) Floriano Peixoto succeeded Dedoro de Fonseca (the first President) in 1891. Note the paved mosaic sidewalk.



Photograph from Harriet Chalmers Adams

CARIOCA AQUEDUCT: RIO DE JANEIRO

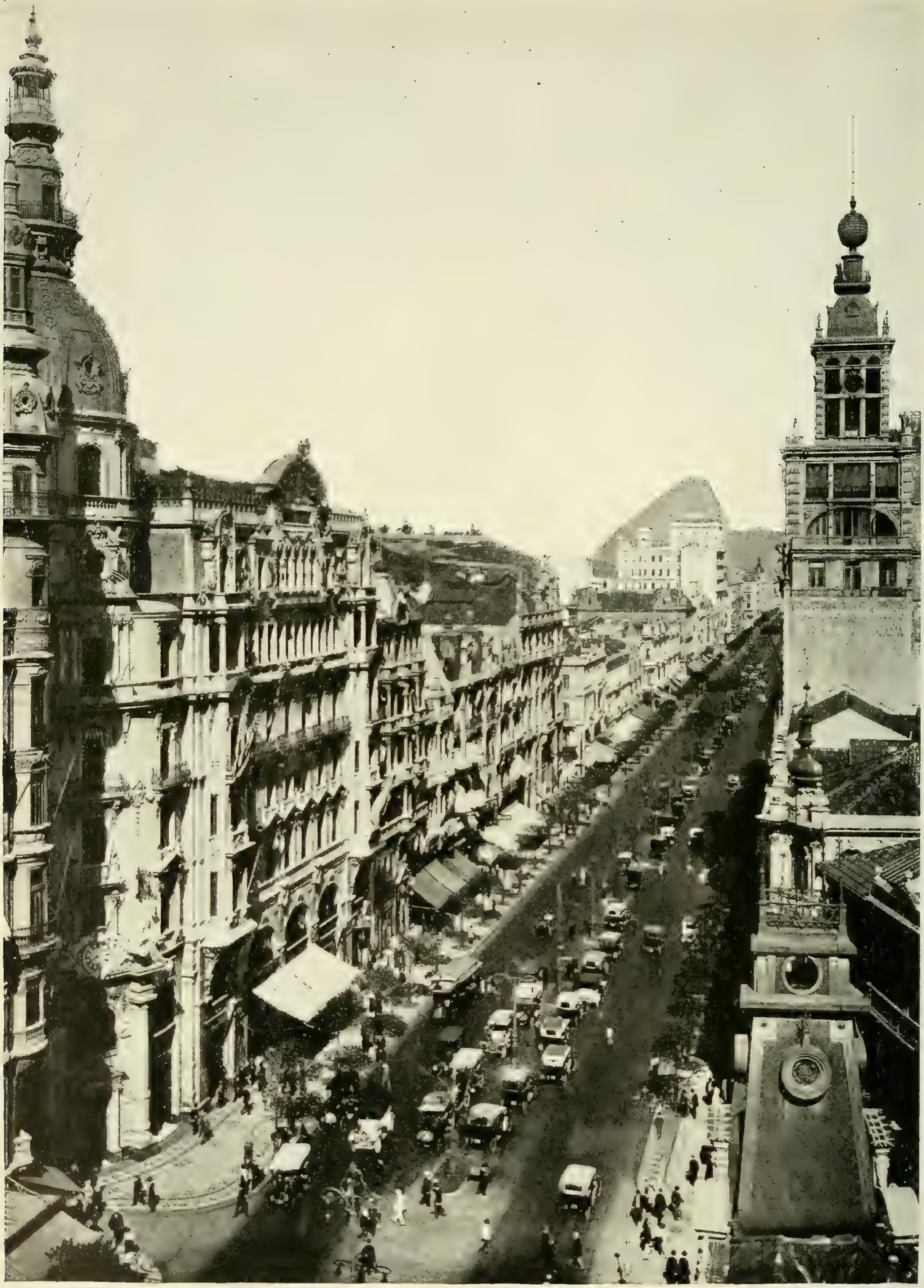
Going up by trolley from the waterfront to the mountain suburb of Santa Thereza, we cross the old aqueduct (now a viaduct) and follow the Rua do Aqueducto to Sylvestre. The aqueduct was built in colonial days, eighteenth century, to bring mountain water from Tijuca Mountain to the city, and is still partially intact. The hill to the right is Curvello, and on the left the viaduct reaches São Antonio Hill, on which a famous old monastery of the same name is situated.



Photograph by Franklin Adams

AN OLD STONE SEAT AT THE HEAD OR UPPER REACHES OF THE CARIOCA AQUEDUCT: RIO DE JANEIRO

The source of the water which flows through this ancient aqueduct is high above, on Tijuca Mountain, back of the city. The aqueduct was built by the Count of Bobadella, an early governor of the colony, and was for long years the city's main carrier of pure mountain water. The author is seen resting after the climb up the steep hill to Sylvestre.



Photograph from Harriet Chalmers Adams

AVENIDA RIO BRANCO, FORMERLY AVENIDA CENTRAL

This magnificent thoroughfare is named for Baron Rio Branco, a great Brazilian diplomatist, now dead. It was carved out of the city during the administration of President Alves. This portion of the city has been cooler ever since, as the breezes sweep through the wide avenue from waterfront to waterfront. Note the wide mosaic stone pavements (black and white). Portuguese workmen from Lisbon were brought over for this work, an ancient craft in Portugal, introduced into that country by the Romans.

tary regulations, and are the despair of the Department of Hygiene. Too bad to tear down the old church, but better for public health if all these hills by the waterfront were leveled." I marveled that just at the foot of this hill lies a business thoroughfare which compares favorably with Fifth Avenue.

The next name on our roll of honor is that of Gomes Freire de Andrade, Count of Bobadella, who, as governor of the colony from 1733 to 1763, introduced the first printing-press and completed the famous Carioca aqueduct. He was instrumental in moving the capital here from Bahia, although he died shortly before the realization of his dream.

Carioca, pronounced "Kar-e-awk'-ah," is an Indian word meaning "a descendant of the whites," in contrast with mixtures between Indians, Africans, and Europeans. Thus the "Cariocas" represent Rio's aristocracy.

I love the old Carioca aqueduct, long the city's main source of mountain water, with its lichen-covered gray arches winding up the hill to Sylvestre, on the slopes of Corcovado. I grieve that it is being destroyed in part to widen the road for motorists. To its upper reaches I have followed, along the side of the mountain, where the great feathery paineiras trees grow, to its very beginning, high up in Fern Land.

A CITY OF ENTRANCING VISTAS

Can any other city offer such entrancing vistas as those from the mountain heights back of Rio? I have traveled far and have yet to find it. Turning bayward, we look down, through a frame of tangled vines and branches, on to the tree-tops of the sloping virgin forest. A scarlet-winged bird flits to a near-by tree-fern; a big blue butterfly zigzags lazily by. There are purple orchids within reach and waxen begonias at our feet. Far below, set in verdure, gleams the kaleidoscopic city, with its crescent shores.

The beaches have such euphonious names—Formosa, Santa Luzia, Lapa, Gloria, Flamingo, Botafogo, Vermelha! The bay, set in its amphitheater of hills, sparkles like a sapphire. To and fro among the ships at anchor ply the busy paddle-wheel ferry-boats to the islands and to Nictheroy, the little sister city across the way. In the distance tower the blue spires of the lofty Organ Mountains. Today we can see the sharp crag called "The Finger of God." Often it is veiled in mist.

WHERE BRAZIL'S FIRST MARTYR WAS EXECUTED

Oceanward we look down on titanic granite mountains rising sheer from the sea. There is bulky Babylonia, and flat-topped Gavea, like a great sail unfurled. Between them lie Rio's suburban beaches—Leme, Copacabana, Ipanema, Leblon—in a glistening chain, their white villas nestling between hill and shore. The Avenida Atlantica, which connects them, is equaled only by boulevards along the Mediterranean.

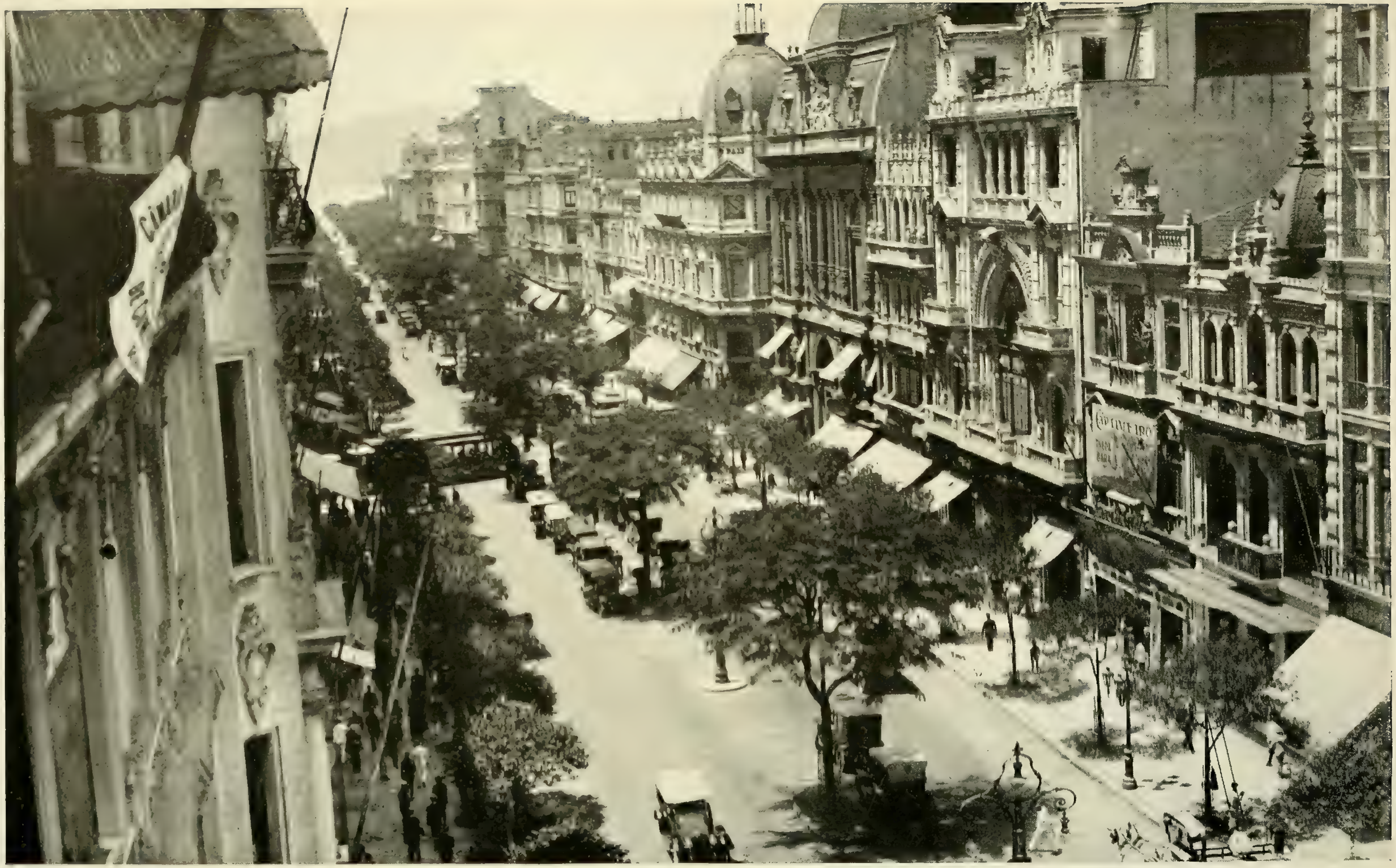
We can motor from the city to these beaches and on to Gavea over a new road cut in the rock high above the sea, climb to the divide at Tijuca, and drop down, on the bay side of the range, to our starting place in the city—a wonder circuit of forty miles or more.

Returning to the city through Rua Conde de Bomfim, we pass the little park known as Praça Tiradentes, where, in 1792, the first martyr of Brazilian liberty, Sublieutenant Joaquin José da Silva Xavier, nicknamed "Tiradentes," or Tooth-Puller, was executed. Some say he was beheaded; others that he was drawn and quartered. It was in the neighboring State of Minas Geraes that this young officer, inspired by the success of the American Revolution, headed a band of patriots bent on throwing off the Portuguese yoke.

Tiradentes was tried and sentenced to death; his companions were exiled to Portuguese Africa; yet in 1922, when Brazil celebrates her centenary of independence, these brave men will be featured in the splendid historical pageant even now being staged.

ARRIVAL OF PORTUGUESE ROYALTY INAUGURATED NEW ERA

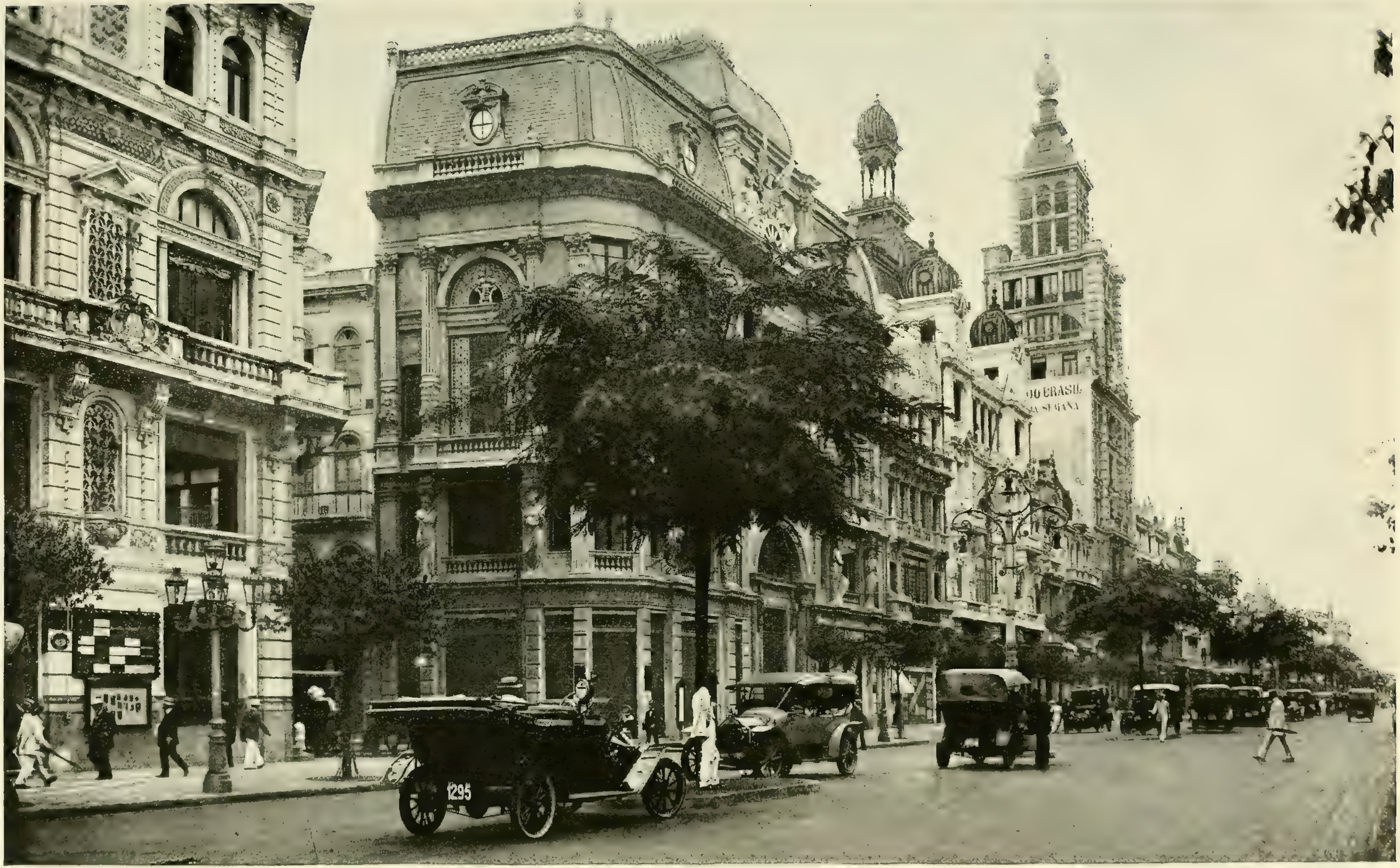
Brazil swung into a new cycle in 1808, when Portuguese royalty arrived from Lisbon to set up its court in Rio de Janeiro. Dom João and his mother came



Photograph by Harriet Chalmers Adams

THE AVENIDA RIO BRANCO, RIO'S FINEST THOROUGHFARE

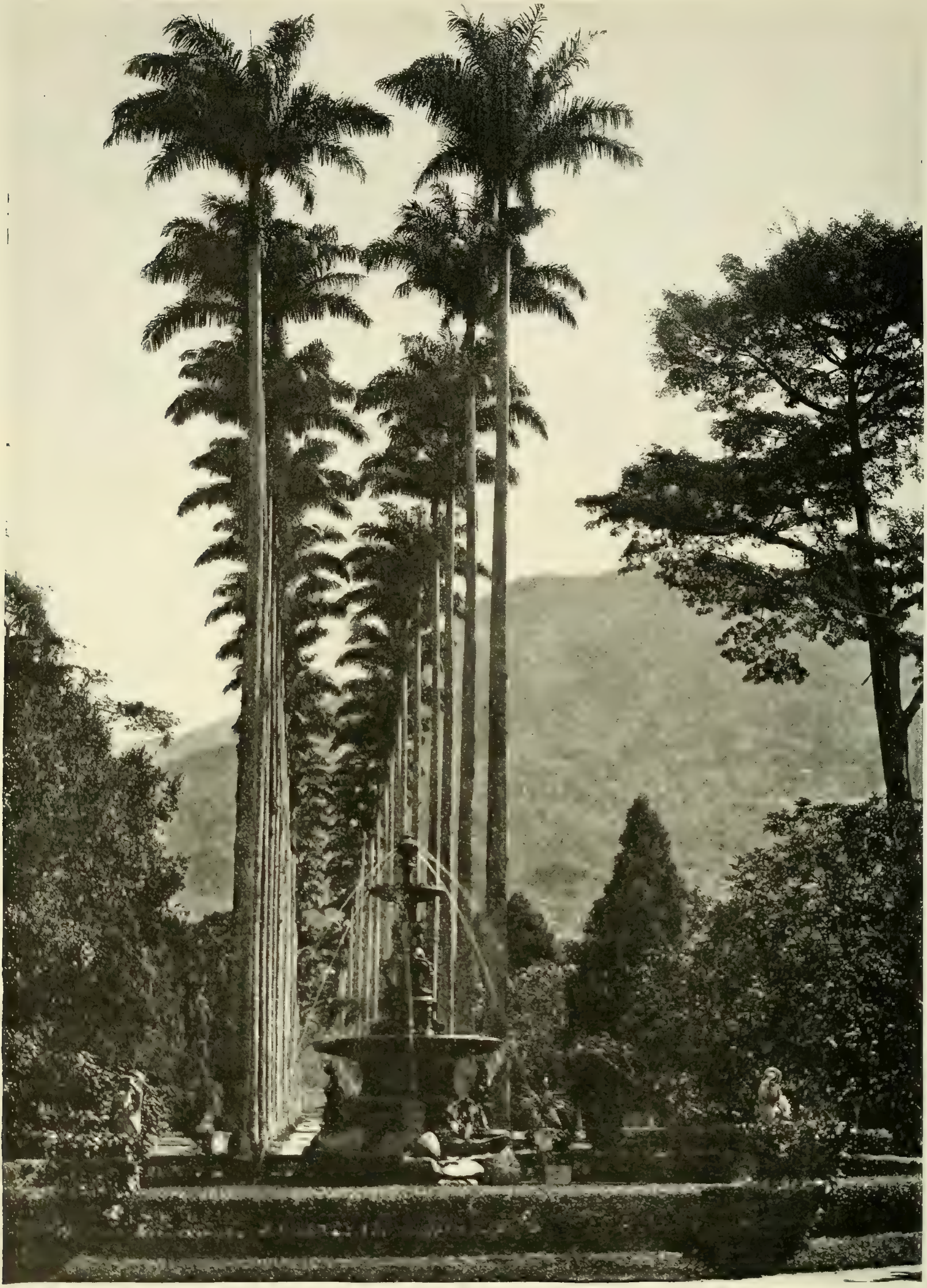
This avenue is more than a mile in length and so wide that it consists of two distinct boulevards. These are separated by a row of shade trees. This avenue, begun in 1904, was completed in six months.



Photograph from Harriet Chalmers Adams

A STREET LEVEL VIEW OF THE FAMOUS AVENIDA RIO BRANCO

Motorists here keep to the right, as in the United States, instead of the left, as in Buenos Aires, and if pedestrians do not do likewise they are politely instructed by a policeman. The building with the tall tower houses one of the city's leading daily papers.



Photograph from Harriet Chalmers Adams

THE ROYAL PALM, NOBLEST OF TREES, GRACES MANY A PARK AND AVENUE OF THE BRAZILIAN METROPOLIS

This palm is not native to Brazil, having been brought from the Antilles by Dom João VI in 1808. The original "Mother Palm" may still be seen in the Botanical Gardens of Rio. The palms are taller and finer here than on their native heath (see text, pages 171 and 195).

ashore in the royal barge, still preserved at one of the island naval bases. This same barge, used on two other occasions only, was sent out to meet Elihu Root on his famous South American tour.

I have a map of Rio, printed in 1808, showing the city that Dom João found. It was a maze of narrow, uneven streets and narrower alleys, lighted at night by tallow lanterns hung out by public-spirited citizens. It was rich, however, in churches and convents, hospitals, barracks, a theater, and nineteen public squares. The king made a royal palace of the handsome building, now the National Telegraph Office, which had been occupied by the colonial governors, and from here his successors, the Pedros, ruled after him.

Dom João's portrait shows a portly gentleman with pompadour and "side burns." He was a patron of arts and letters and brought with him from Portugal the royal library of 60,000 volumes and the "old masters" which now grace the Academy of Bellas Artes. The national library is one of his lasting memorials, alone worth a visit to Brazil.

MANY TREASURES IN BRAZIL'S NATIONAL LIBRARY

I wish I had space to outline all the treasures I found here. There are 5,000 maps, 400,000 catalogued volumes, and 500,000 manuscripts. I saw a Latin manuscript, in microscopic writing, of the year 1300; the Mazarin Bible of 1462, the first Bible printed from movable type; a first (1572) edition of Camões' "Lusiadas," that epic of Portuguese navigation; a first edition of Hakluyt's Voyages, 1625, and countless other interesting books.

The library has a modern book-carrier, with which few institutions of the kind are equipped, and fumigates all its books—a practice which could well be followed the world over. Here it serves the double purpose of sanitation and the destruction of boring insects.

Dom João's botanical garden is today the finest in the New World and equaled only by that of Buitenzorg, Java. Its century-old imported bamboos are as tall as forest trees; its native Victoria Regia lilies most queenly of their kind. Its Royal Palm Avenue, almost eighteen hundred feet long, is second only to Rio's Quadruple Palm Avenue bordering the Mangue Canal.

THE STORY OF THE PALMS AS TOLD IN RIO

In the early days these palms were a mark of royal distinction and were planted only in parks and avenues near city and country palaces. The story goes that a slave stole some of the seeds and sold them. Today these "feather-dusters of the gods" wave in every part of the city. At present there is a free distribution of seeds and plants from the botanical garden.

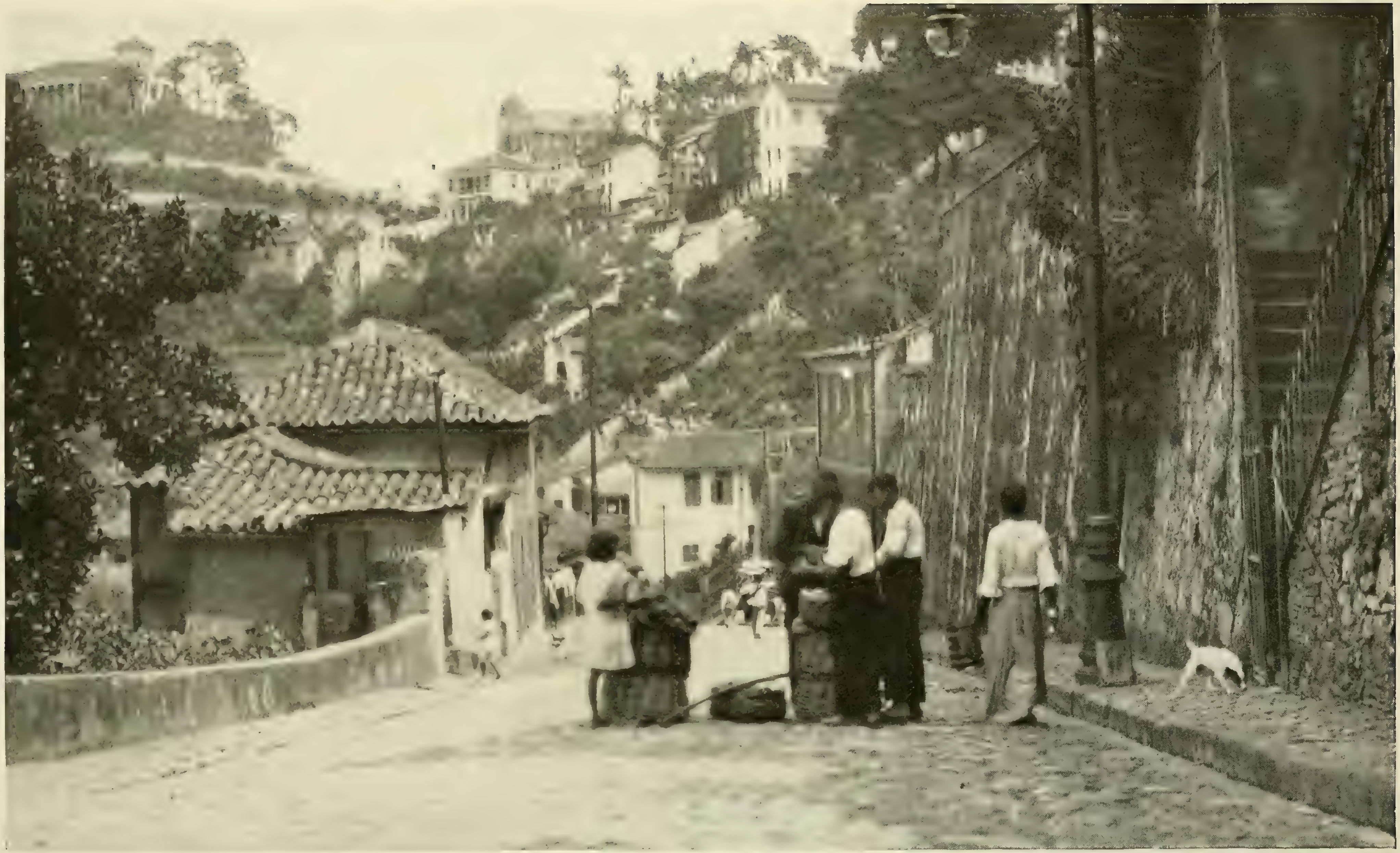
I like best the great trees from the Brazilian wilderness — the jacarandá, sapucaia, ceiba, and their like. Here, away from the jungle battle of the survival of the fittest, one can better appreciate these pillars of God.

"Did the trees speak to you?" an old woodsman once asked me, as I rode in from the forest. I nodded in the affirmative, for they always do.

Old carved furniture made from the jacarandá brings a high price at the curio dealers in Rio. It is black and as hard and heavy as ebony. The sapucaia is the most beautiful of trees, with leaves that turn from pink to green in the spring, violet blossoms, and great seed-cups like those of the nut-bearing castanha, which we call the "Brazil nut." The ceiba, with its formidable buttresses, is so sure of its foundation that it towers above all other trees.

The Quinta da Bôa Vista, some distance from the heart of the city, was one of the country homes of royalty. This splendid estate, now Rio's finest park, was presented to Dom João by a Portuguese citizen. On the king's return to Europe it was claimed by English bankers for crown debts and purchased from them by the Brazilian Government. The palace is now the home of the National Museum.

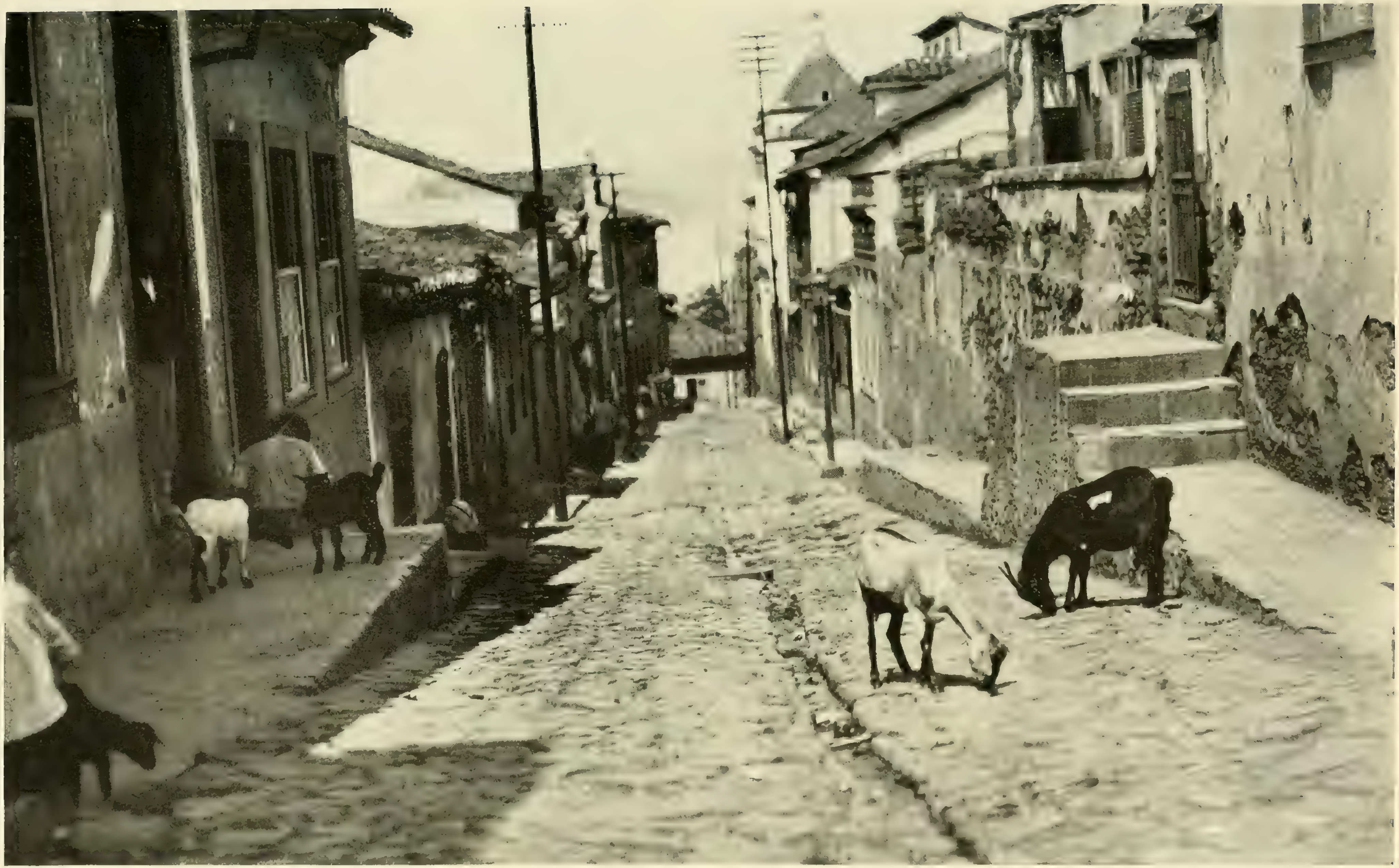
National Geographic Society members would enjoy a visit to this museum, with its remarkable Indian collections from the upper Amazon; its Brazilian birds, butterflies, woods, and minerals; and its gallery devoted to "Rondonia," the newly



Photograph by Harriet Chalmers Adams

THE VEGETABLE SELLER: RIO DE JANEIRO

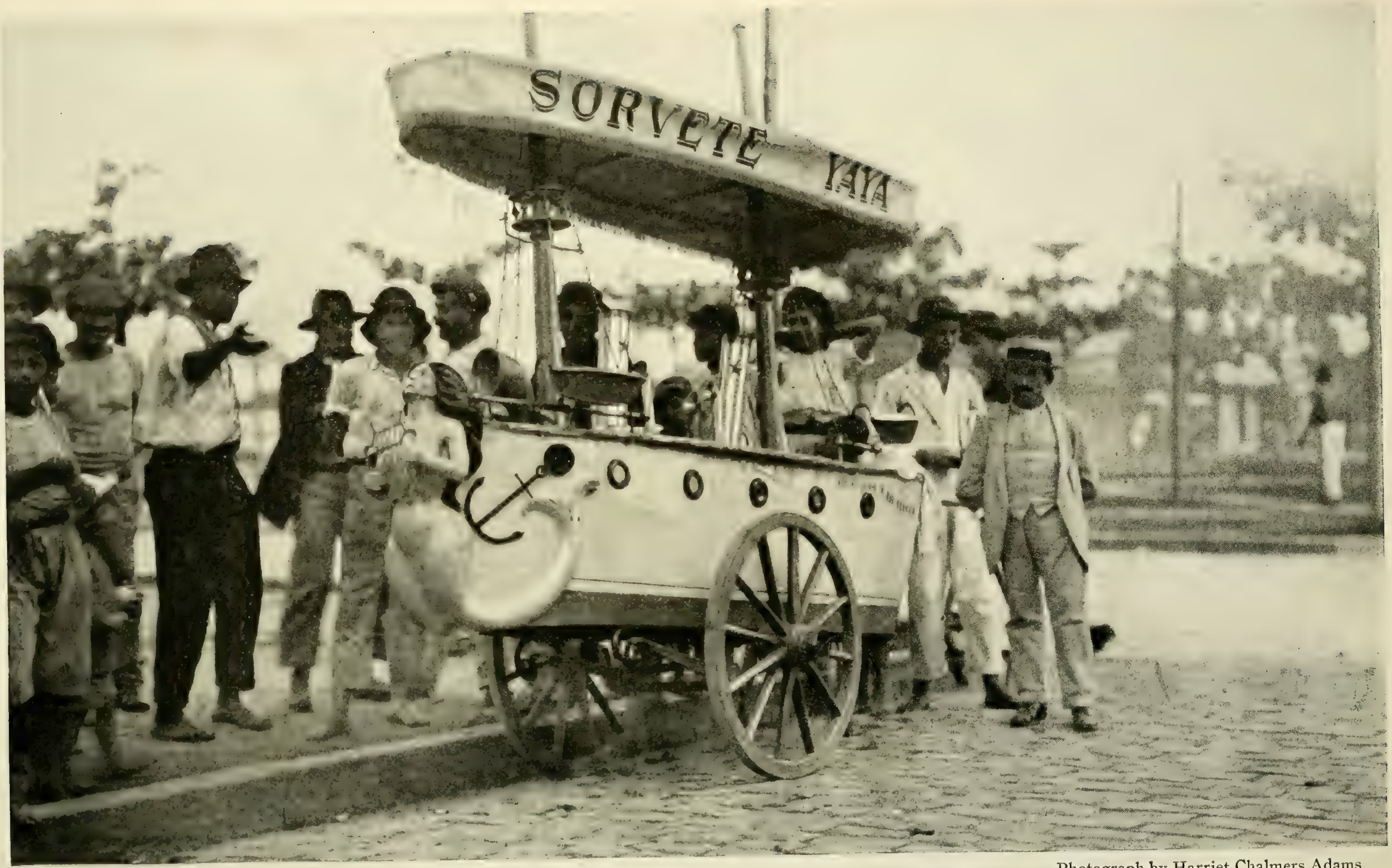
The photograph shows one of the steep streets leading up a canyon of the city. The houses here are reached by a long flight of steps and the servants come down to the street to meet the vegetable man when he calls (see text, page 173). There are 1,148 vegetable-sellers in the city.



Photograph by Harriet Chalmers Adams

CASTLE HILL OR MORRO HILL: RIO DE JANEIRO

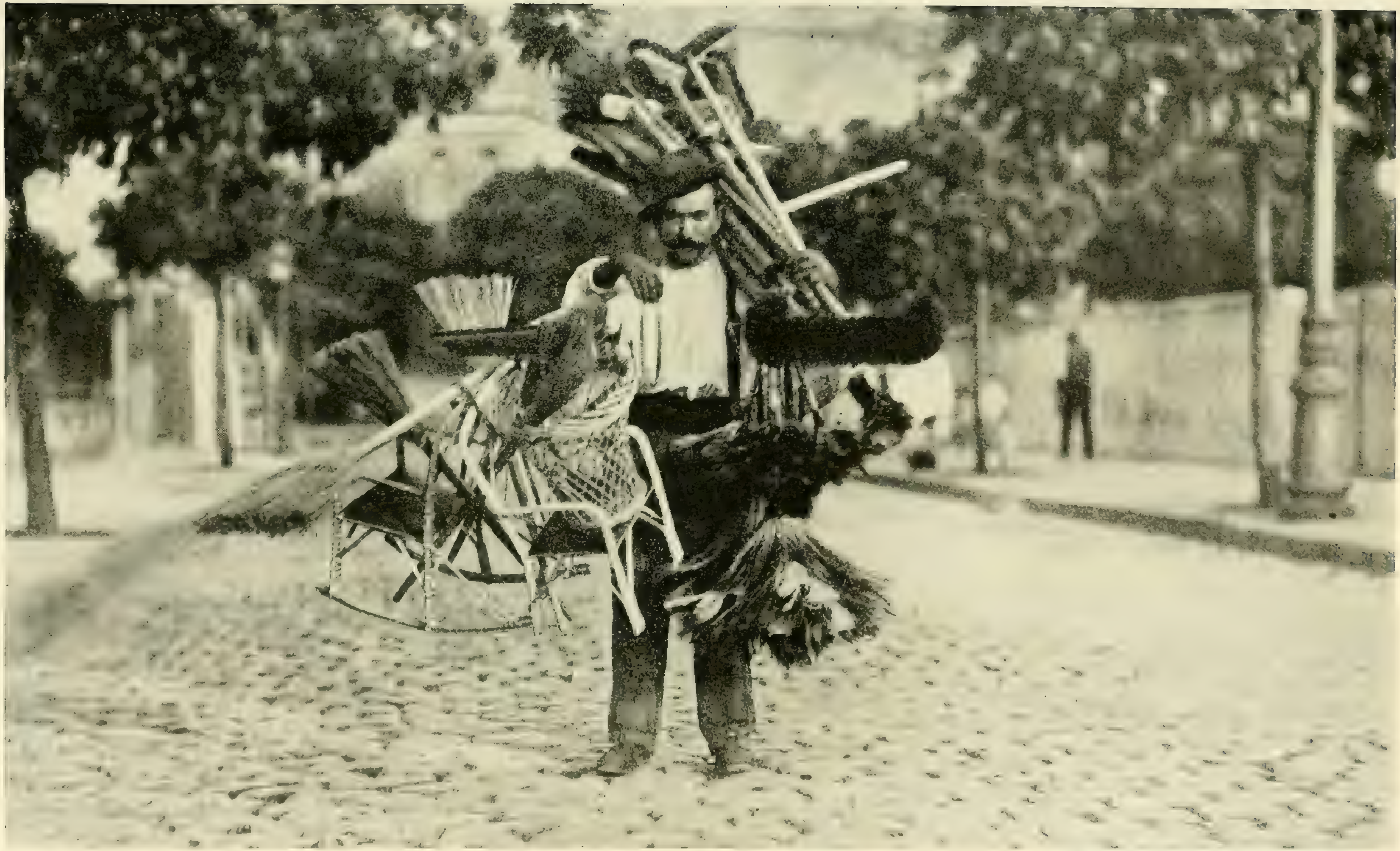
This is the historic part of town, where the founder of Rio is buried. It is the oldest part of the city and is now given over to the very poor and their goats and chickens (see text, page 185).



Photograph by Harriet Chalmers Adams

RIO ICE-CREAM WAGON

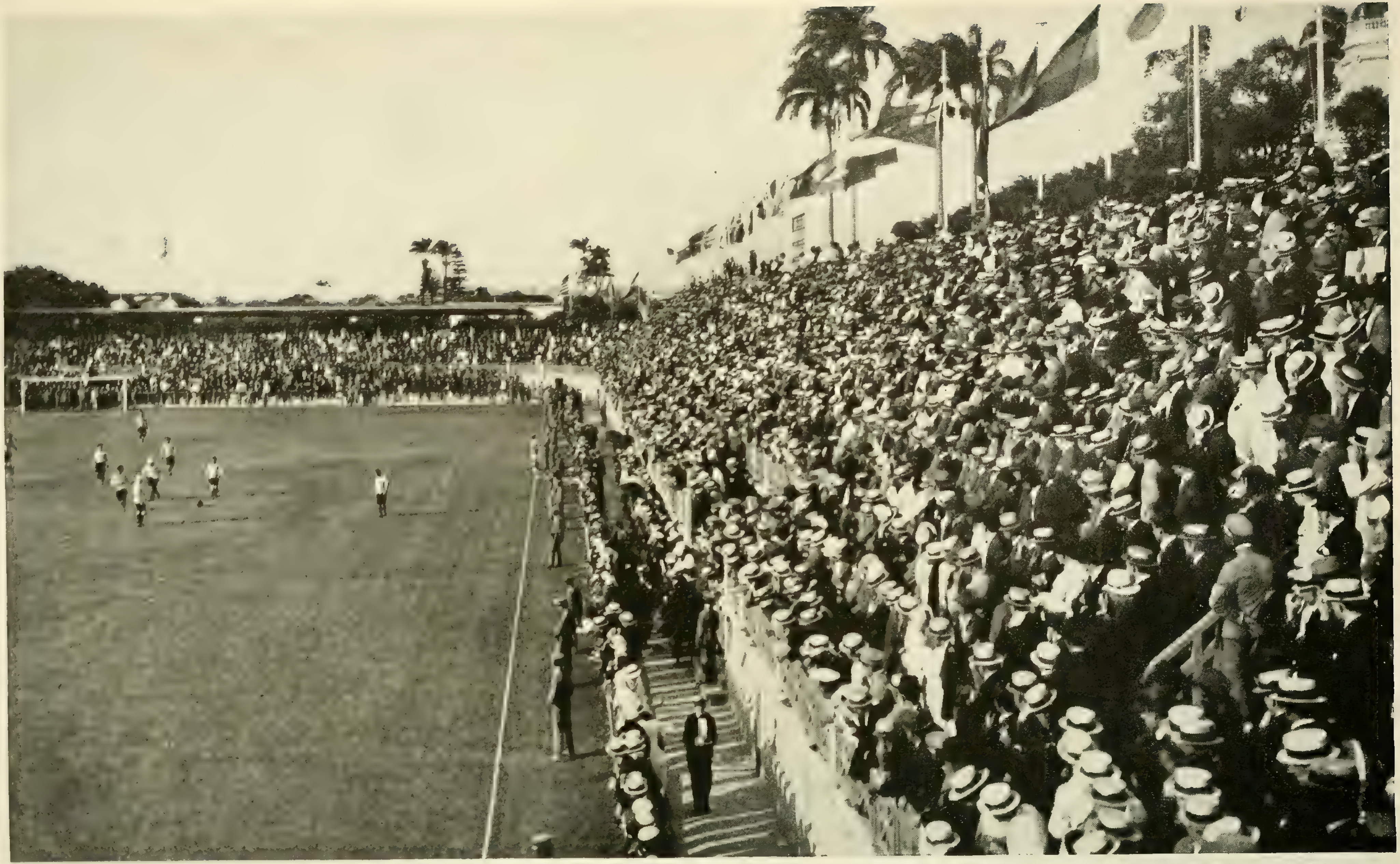
Ice-cream and peanut wagons are very popular in the Brazilian capital. Speaking of nuts, Brazil is the home of the nut-bearing castanha tree, whose fruit is known to us as the Brazil nut.



Photograph by Harriet Chalmers Adams

THE BROOM-SELLER: RIO DE JANEIRO

He also sells feather dusters. The feathers come from Argentina and are made of the plumage of the native rhea, or South American ostrich.



Photograph by Carlos Bippus

A FOOTBALL MATCH IN RIO DE JANEIRO

Football, racing, and rowing are the three favorite sports. The Brazilians do not play Rugby but Soccer football. In the football contests last season Brazil won from Uruguay, Argentina, and Chile. Baseball is popular with the American colony. There are about 1,500 Americans in Rio.

discovered land in Matto Grosso, named for General Candido Rondon, the Brazilian explorer.

"INDEPENDENCE OR DEATH!"

In 1821 Dom João returned to Lisbon, leaving his son, Pedro, behind. Brazil's independence was foreshadowed, and in his farewell letter to his boy the king urged him "to place the crown on thine own head rather than have it fall to an adventurer," even though it meant their lifelong separation. This led to that fateful September hour in 1822 by the River Ypiranga when Dom Pedro uttered his battle-cry, "Independence or Death!" Thus the seventh of September is the Brazilian Fourth of July and "Ypiranga" the slogan.

In choosing the national hero, Brazil named not Tiradentes, but Bonifacio—José Bonifacio de Andrade e Silva—who lived between 1763 and 1838. Born in Santos, he went at eighteen to Portugal, where he received degrees in law and philosophy and fought for the mother country against France. Returning to Brazil as an educator when he was past fifty, his name soon stood for his country's independence. It was he who persuaded Dom Pedro to proclaim the Brazilian monarchy. He was a minister in the first emperor's cabinet and tutor and guide to his son, who became Pedro II. His portrait represents a gentle, gray-haired man with an intelligent, rather sad face.

Beyond the stirring Ypiranga prelude and a magnificent equestrian statue commemorating independence, there are today in the capital few reminders of Brazil's first emperor. Owing to political strife, he abdicated in 1831, retiring to Europe, as his father had done, leaving the throne to his son, then a child of six.

EVERY INCH AN EMPEROR

There is an historical painting which brings the abdication scene to us. It is night in the palace. Soft candle-light fills the room. The emperor, tall and grave, is standing near a group of men. He hands the fateful document to the minister. The empress, seated on a divan, with her arms about a golden-haired boy, weeps. A woman, kneeling, kisses the fair boy's hand—"Long live Dom Pedro II!"

And so Brazil's best beloved ruler, whose long, useful life was devoted to the welfare of his people, but whose old age was so tragically embittered, came into his own.

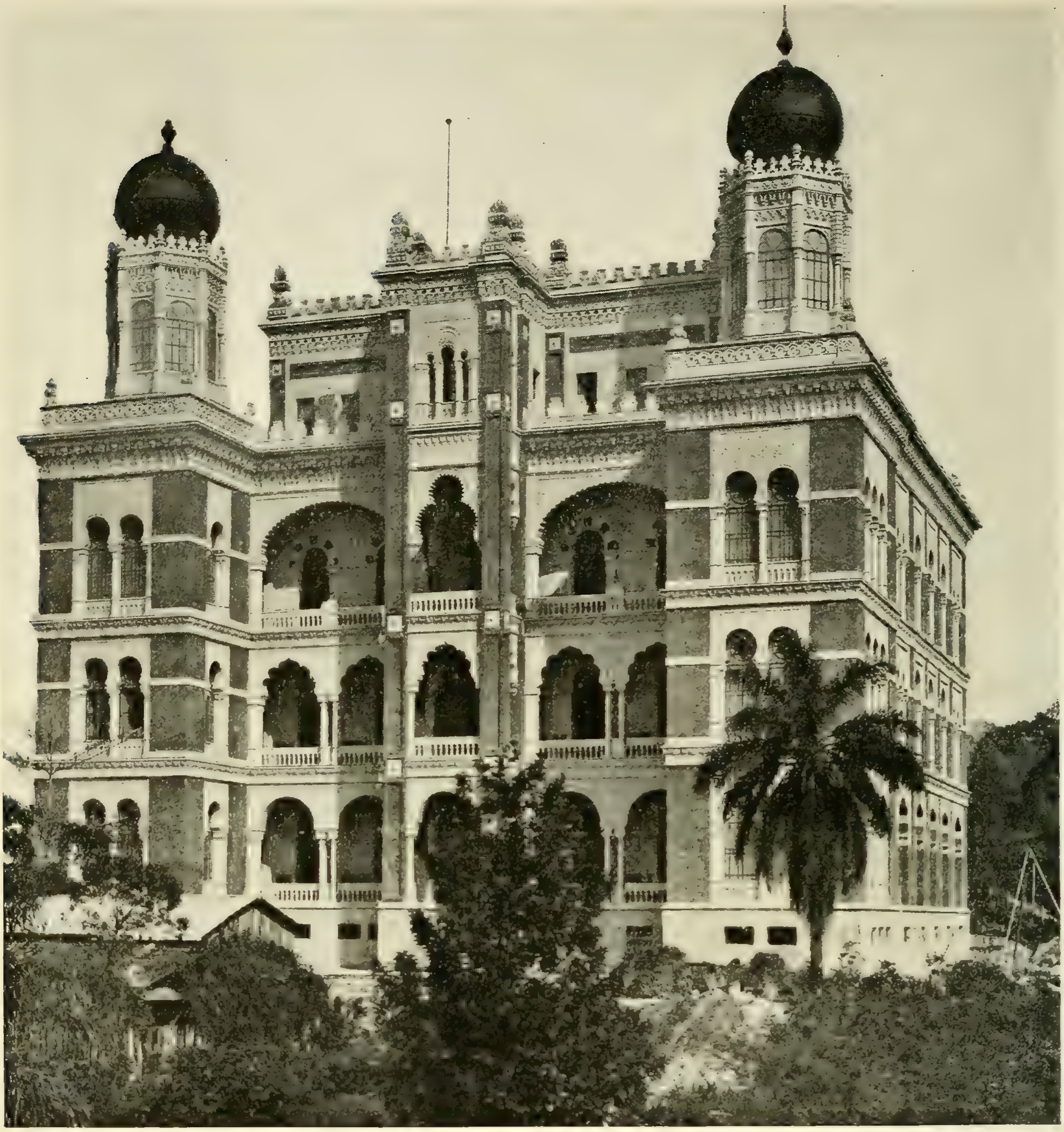
Dom Pedro II is Brazil's biggest name. He it was who led his country into the brotherhood of great nations. With him wisdom and kindliness were preëminent. Every inch an emperor, he yet was accessible to the humblest of his subjects. There is much in the city where he lived for so many years still closely associated with his rule, which ended only the other day, as we count history—1889. In the coat of arms of the House of Bragança, still to be seen on many of the buildings; such street names as Marquez de São Vicente, Barão de Petropolis, Visconde de Maranguape, and the titled Brazilians one still meets in the country, we realize that not so many years ago Rio de Janeiro was the abode of royalty.

A WOMAN'S HAND FREED 1,500,000 SLAVES

Closely associated with imperial rule in its decline was the emperor's daughter, Dona Isabel. While princess regent, during one of her father's visits to Europe in search of health, she signed the most vital decree ever issued in the country. I saw the original document in the Hall of Archives and the pen, set with diamonds and emeralds, with which the princess signed it, the decree of May 13, 1888, which liberated 1,500,000 slaves.

As early as 1580 there were 10,000 African slaves in the country, 20,000 "tame" Indians, 5,000 mamelucos of Indian and African blood, and 15,000 Portuguese colonists. Following Dom João's arrival, in 1808, 20,000 slaves were imported annually. After Portugal recognized Brazil's independence a convention concluded between Great Britain and Brazil, operative in 1830, made the carrying on of the slave trade by Brazilians illegal and to be treated as piracy. A great number of negroes captured from slave-runners by British vessels were turned over to the Brazilian Government as "free Africans."

Great Britain afterward claimed that



Photograph from Harriet Chalmers Adams

INSTITUTE OSWALDO CRUZ, IN A SUBURB OF RIO DE JANEIRO

Supported by the Brazilian Government for scientific medical investigation, and named after Dr. Oswaldo Cruz, who practically eliminated yellow fever in Rio and did so much for the health of its citizens. He died three years ago, at the age of 45. The institute building is in Moorish design and coloring, exterior and interior, and commands a splendid view of the bay. There is a noted American pathologist on the institute's staff.

many of these "emancipados," supposed to be wards of the government, were sold into slavery, and this led to no end of investigation and trouble. At this time it was claimed there were 3,000,000 negroes in Brazil. This number gradually decreased as the children of slaves were liberated and the African blood more or less absorbed. Today the Brazilians are, on the whole, without racial prejudice.

The decree of 1888, which freed all slaves, was immensely unpopular with many of the country's leading men, who claimed the princess regent had been unduly influenced by her clerical advisers. This was one of the reasons for the fall of the empire, although that event may be largely attributed to discontent all over the country, owing to the centralization of power in the capital. An Englishman who lived in Rio during these

Photograph by Harriet Chalmers Adams

SWEEPER IN ONE OF RIO'S PARKS

He uses a primitive type of broom, made from the trees or bushes. Only the wooden handle he buys. These men seem to love their work, for they are in parks and gardens, and to the Portuguese-speaking peoples of the world the garden is the art gallery.

eventful days of 1889, when Brazil's last emperor was sent into exile, told me of the event.

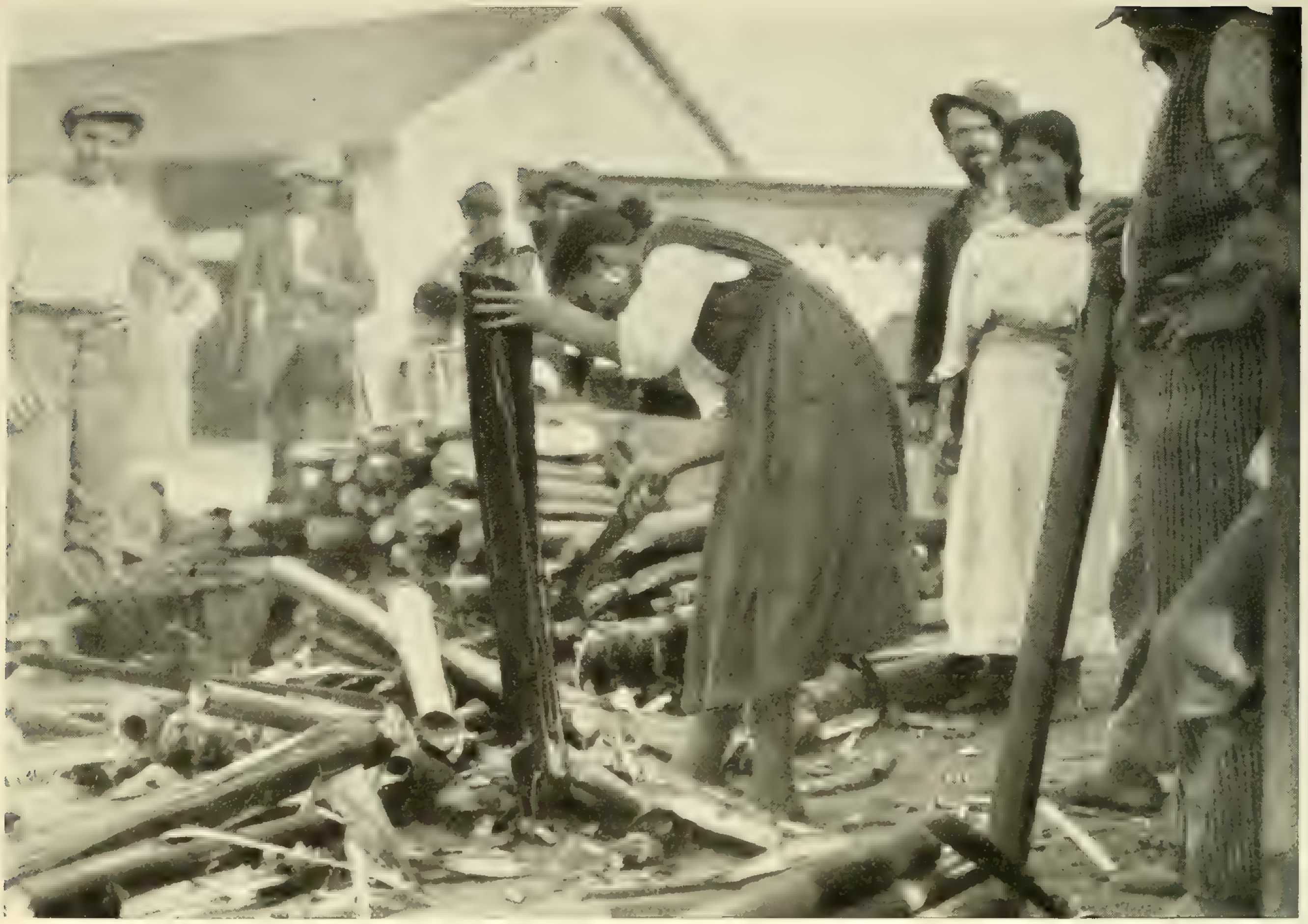
"WE WENT TO SLEEP IN AN EMPIRE AND AWOKE IN A REPUBLIC"

"It came about so quickly and quietly we could not realize it," he said. "There was hardly a shot fired. Dom Pedro and his family were taken from the palace at night and put aboard a cruiser, from which they were transferred to a steamer bound for Lisbon. They said the Emperor was dazed, the Empress and Princess Isabel in tears. We went to sleep in an empire and awoke overnight in a republic."

Dom Pedro II died in Paris in 1891. Princess Isabel, who married the French Comte d'Eu, still lives in France. In 1908 her elder son renounced his claim to the throne of Brazil in favor of his brother, Dom Luiz, whose little son, born in 1909, is Pedro the Third.

When in Lisbon I visited the Pantheon, where the rulers of Portugal lie. Exiled from his own country, Dom Pedro II also found a resting place in the land of his forefathers. I was most unfavorably impressed with this Pantheon. It altogether lacks the beauty and dignity of the royal mausoleum of the Escorial in Spain. For the payment of a small fee, the custodian permits you to climb a ladder and gaze at the embalmed body of the last Emperor of Brazil. This seems most unfitting.

There is a movement under way to build a national pantheon in Rio de Janeiro and bring to it, at the time of the 1922 centenary, the remains of Brazil's historical personages, including João VI, Pedro I, Pedro II, and his consort. To this the Portuguese Government will probably consent, and it is to be hoped that Princess Isabel, too, will agree. Dom Pedro II should return with honor to the land of his birth. The difficulty lies in the fact that neither the princess nor her sons are permitted to enter the Republic of Brazil and could no longer visit the family tomb.



SPLITTING PALM FOR FOOD IN THE MARKET: RIO DE JANEIRO

With a French dressing it is very good, but most people prefer it boiled and serve it with a butter sauce. Brazil is the land of palms, and these trees supply about every need for the country folk.

Photographs by Harriet Chalmers Adams

THE INTRUDERS

When the author started to make this photograph the well-dressed children only were on the sidewalk. Along came boys with baskets on their heads and decided they would be "snapped," too. The other children, especially the first little girl, rather resented it.

Avenida Rio Branco, Rio's finest thoroughfare, is named after a celebrated Brazilian statesman, Barão de Rio Branco, who, as Minister of Foreign Affairs, successfully settled the country's boundary disputes without resorting to arms. In 1904 it was decided to carve this great modern avenue out of the city, over six hundred homes being sacrificed.

The avenue, more than a mile in length and so wide that it consists of two distinct boulevards separated by a row of shade trees, is thronged day and night with automobiles. Motorists here keep to the right instead of to the left, as in Buenos Aires. Pedestrians also are requested to keep to the right, and should you forget, a policeman politely reminds you.

The sidewalks, the widest I have ever seen, are of black-and-white stones laid in mosaic designs, like those in vogue in Lisbon. Both stones and workmen were brought from Portugal, but similar pavements, constructed later in other parts of the city, are "home made."

They tell a story of an American sailor who one night lost his way in Rio. Accosting a pedestrian, he asked to be taken back to "that street with pretty pictures on the sidewalks."

Before it was called "Rio Branco," this thoroughfare was known as Avenida Central. They have a disconcerting way here of changing the name of a street. Sometimes the new name "takes"; but again, as in the case of Rua Ouvidor, the old one "sticks." Rua Ouvidor's new name is "Moreira Cesar"; but the merchants on this most fashionable shopping street refuse to sever connection with the old name, so long identified with the best in the city. The street dates back to colonial days, when this was a residential section and the Portuguese auditor, or "ouvidor," made this his home.

RIO ENJOYS REAL LUXURY AT THE "MOVIES"

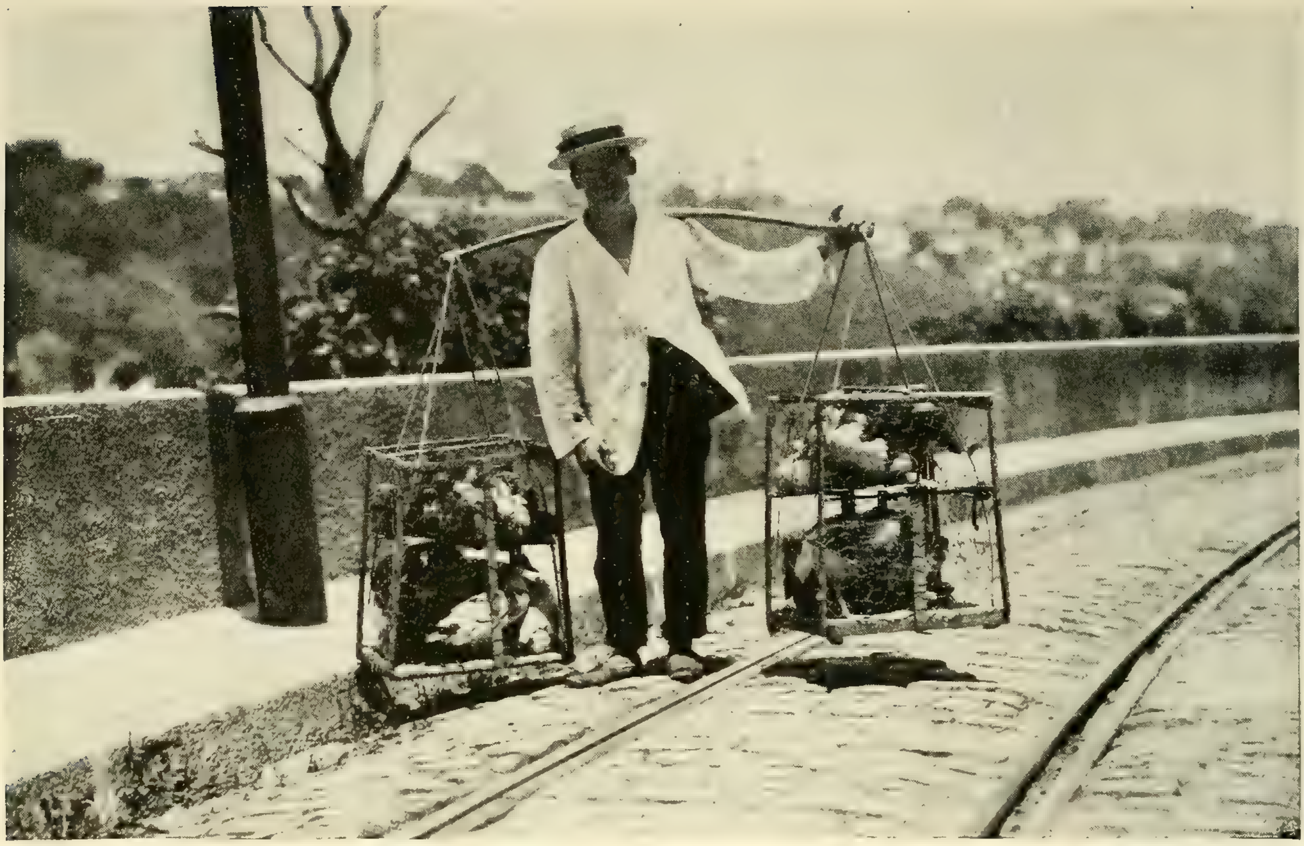
Rua Ouvidor and Rua Gonçalves Diaz, named after a favorite poet, are unique. They are exceedingly narrow, with diminutive sidewalks; but, as no traffic is allowed, pedestrians walk in the street. On many other equally narrow streets one-way traffic only is permitted; but even here pedestrians have rather a bad time of it dodging motors, trams, and trucks.

Photograph by Harriet Chalmers Adams

MOTHER HAS SENT HIM ON AN ERRAND

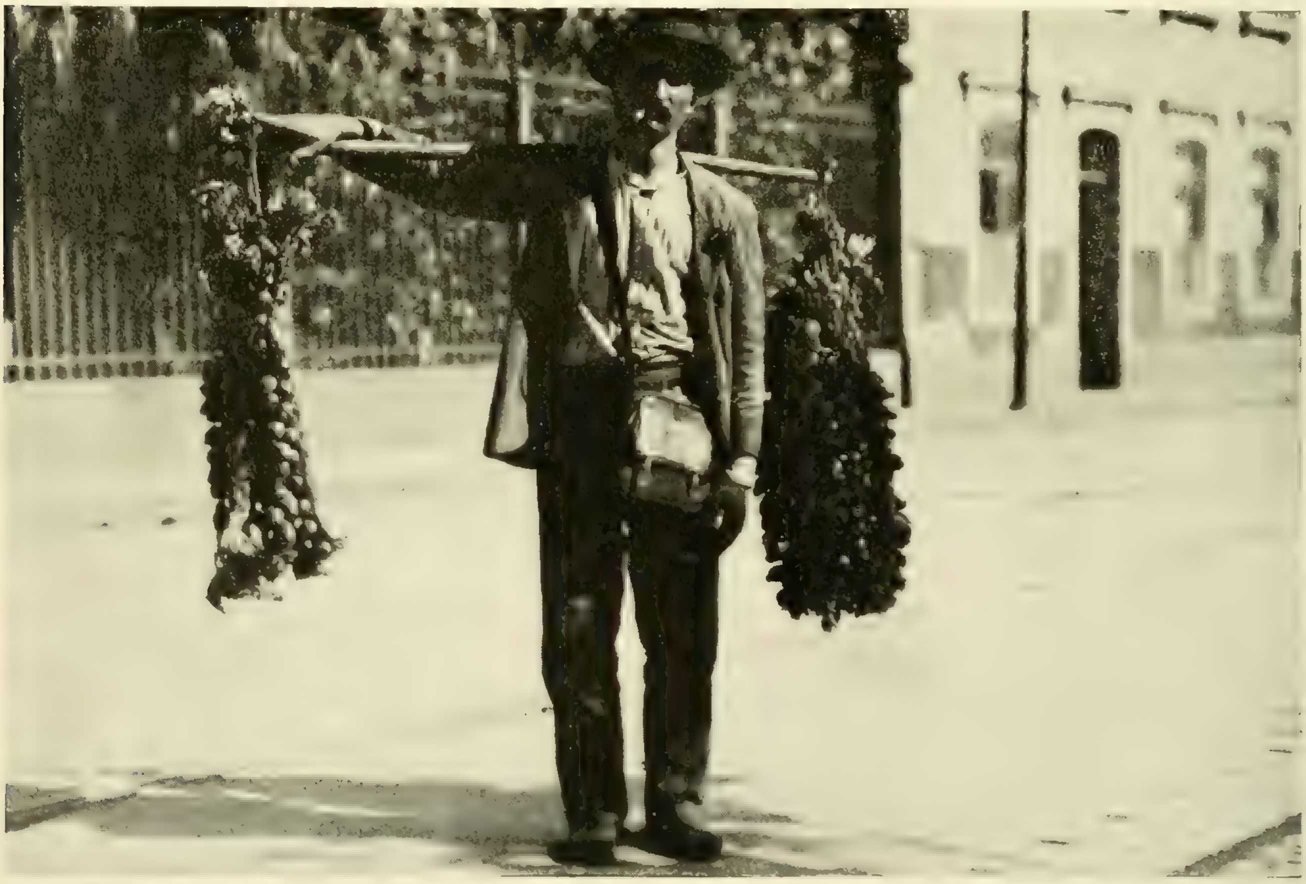
It looks suspicious, but he is going for milk or for fresh water. The Brazilians are temperate folk. They have learned to drink beer, and there are breweries, especially in southern Brazil, where there are so many Germans; but they prefer wine, as the Portuguese do.

It is at the cinema theaters that the Cariocas know real comfort; for, unlike our moving-picture houses, those in Rio have spacious waiting rooms, where you sit, listening to excellent music, until the hour for the first reel comes round. The pioneer house of the kind inaugurated this custom, and now the people refuse to stand outside waiting for the even hour to arrive, or to enter after the film has started. With so much profitable space taken from the auditorium, the "movies" in Rio are not as great money-makers as with us. The American favor-



THE CHICKEN AND DUCK SELLER

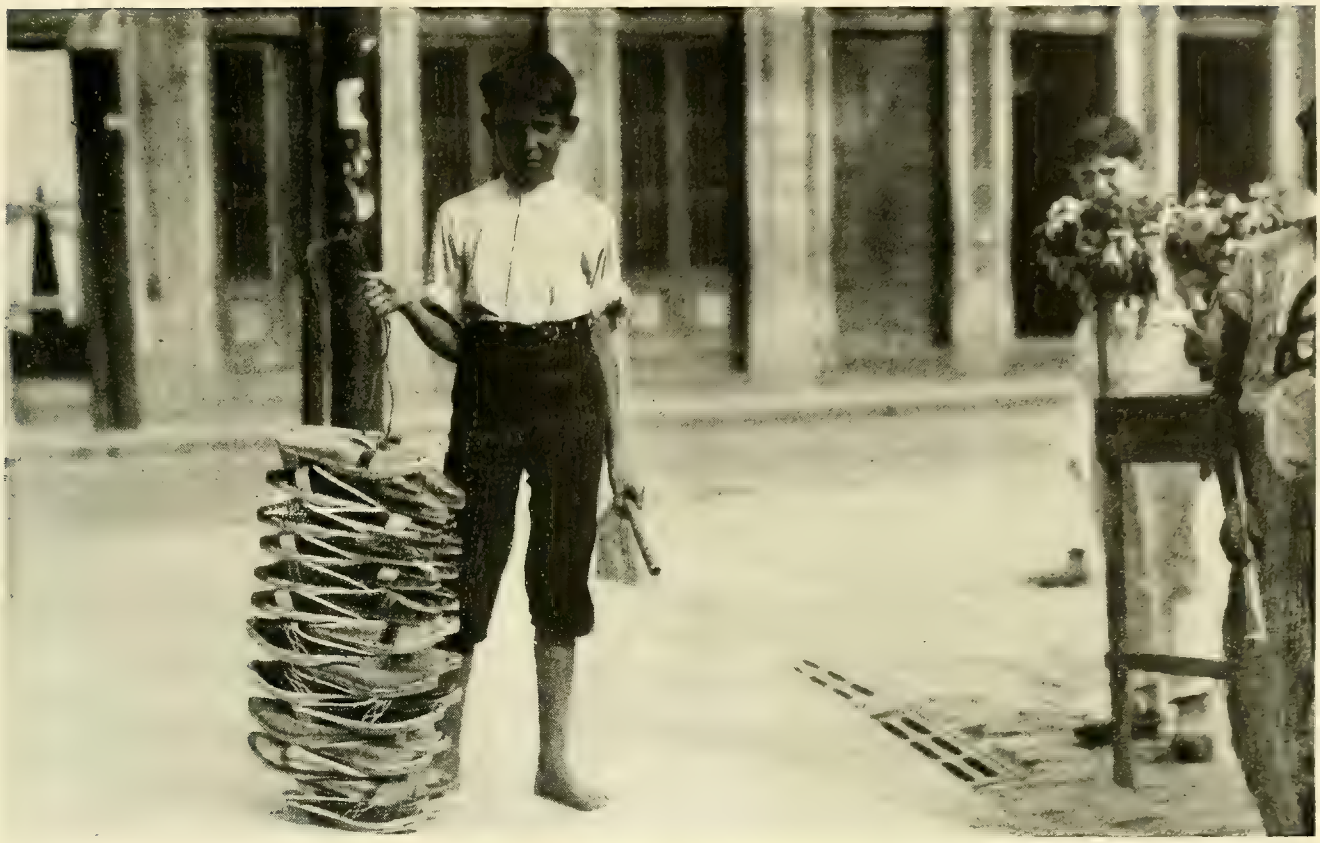
They help him to cry his wares. You are sure of getting your fowl fresh. He is toiling up the road by which the tram ascends to Santa Thereza Hill, and Sylvestre on the slopes of Corcovado.



Photographs by Harriet Chalmers Adams

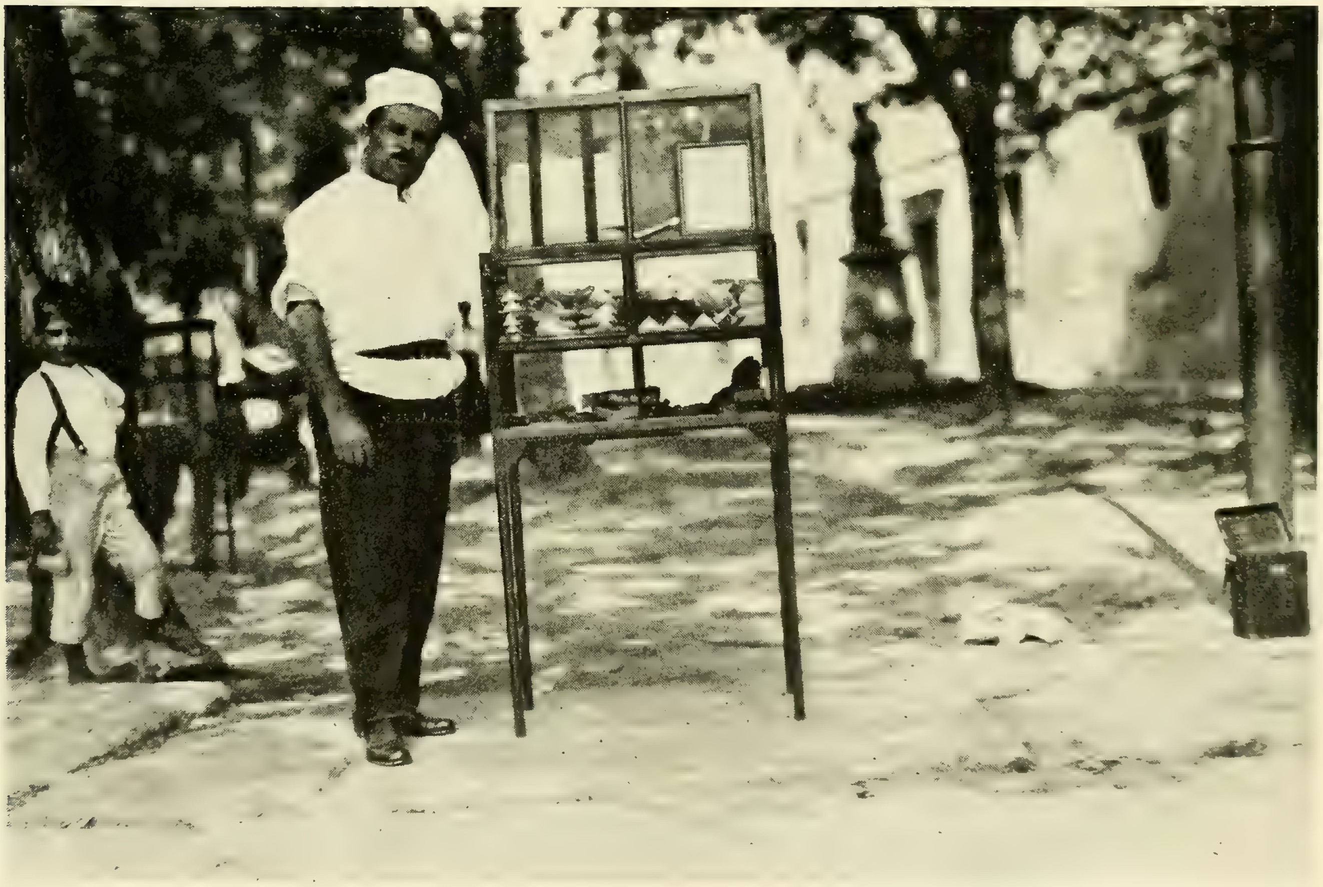
THE ONION-SELLER: RIO DE JANEIRO

Like the Portuguese and Spaniards, the Brazilians are very fond of onions and men earn a livelihood selling them on the streets of the city. Like all the other street sellers, the onion man has his particular cry to attract attention—perhaps unnecessary, if to windward.



DELIVERING TAMANCOS, OR WOODEN SHOES

This is the typical footgear of the working people of Rio. The shoes are manufactured in the city and are not unlike the type of shoe worn by the Filipinos—that is, in their form. They have wooden soles and their "clap-clap" is like that heard on the streets of Japan.



Photographs by Harriet Chalmers Adams

ONE OF RIO'S 454 LICENSED CAKE-SELLERS

The cake-seller is on every street of the down-town section of Rio and is especially in evidence at the entrance to parks. The Brazilians are very fond of sweets, and the cakes are as rich as French pastry. They are carried in glass cases.

Photograph by Carlos Bippus

THE PALMS ON THE ATLANTIC SHORE, AVENIDA NIEMEYER, BY THE SEA: RIO DE JANEIRO

This avenue, carved from the rock, overhangs the sea. It connects Leblon Beach with Gavea Beach at the foot of Gavea Rock, where there is a plantation dating back to colonial days. From Gavea Beach the highway, which encircles Rio, climbs up over Tijuca Mountain, dropping down to the bay side of the city. Below Avenida Niemeyer a sheer wall of granite rises from the water's edge. Note the native falua of a fisherman offshore.

ites are popular, quite outclassing Italian and Brazilian film stars.

The lottery plays an important part in the life of the people, and is so well established that it is often used to raise money for charities, and is not frowned on by religious bodies. There are daily drawings, tickets being sold in shops in the heart of the city as well as on the street. You can play the national or the federal lottery, or those of the States of Rio de Janeiro, São Paulo, or Rio Grande do Sul. It is illegal to play the lottery known as the "Jogo do Bicho," dear to the heart of the working class, which is operated without a concession, although thousands do play it.

In the legal lotteries you pin your faith on a number; in the "bicho" you place your wager on the cat, the dog, the rabbit, or some other animal or *bicho,* corresponding to a group of numbers in the day's national lottery drawing.

"I dreamed of a snake last night and am sure it will win today," my laundress, firmly addicted to the "bicho," told me; and, whether she wins or not, she and Manuel and all the rest will keep on squandering their hard-earned milreis.

SCIENTIFIC SANITATION HAS TRANSFORMED THE BRAZILIAN CAPITAL

Great credit is due to the Brazilian scientist, Dr. Oswaldo Cruz, who died in 1917, while still in his forties. He it was who made the fight for sanitation, completely transforming the capital. His memorial is the Oswaldo Cruz Institute, of which he was the first director, maintained by the government for medical research. On the institute's staff is an eminent American pathologist.

An American public health specialist is director of the Brazilian branch of the Rockefeller Foundation's work for the eradication of hookworm and malaria. His main office is in Rio and the work is under way in many stations throughout the republic. In São Paulo, Brazil's second city, I met a third celebrated American scientist, formerly of the Canal Zone.

These Americans were of great service during the influenza epidemic, at its worst in October, 1918, when 2 per cent of 600,000 cases in the capital proved fatal. Fifty-seven American sailors on a battleship in the bay succumbed to the disease. Their companions in the navy are erecting a monument to their memory in São Francisco Xavier Cemetery, which overlooks the bay.

RIO'S POPULATION ENUMERATED ACCORDING TO NATIONALITIES

The population of the capital exceeds 1,000,000. Among foreigners there are 154,000 Portuguese, 30,000 Italians, 24,000 Spaniards, 4,000 French, 3,500 Turks, Syrians, and Arabs, 3,000 Germans, 2,000 British, 1,500 Spanish-Americans, 1,500 Americans, and 600 Asiatics. The Germans are now arriving on Dutch boats in great numbers, but the majority are bound for the South Brazilian States.

Rio's climate is often maligned, but it suits those who like spring and summer weather. It is never as warm as summer in many of our Eastern and Middle West cities, and the nights on the hills are nearly always cool. The pleasantest season is between May and November; the warmest months are January, February, and March. It is hard to say just which is the rainy season, as showers are frequent throughout the year.

I have often been asked by East Coast voyagers, whose ships stop only one day in Rio, "Which of the excursions shall we make?" The choice is between Corcovado and Sugar Loaf. The summits of both are easy or access, the views incomparably grand.

RIO'S TWO FAMOUS SUMMITS COMPARED

Corcovado (the Hunchback) is ascended by trolley to the head of a canyon; by electric cog railway two miles or more up the mountain; by a flight of steps to the covered pavilion on the summit. The altitude is only a little more than 2,000 feet; yet the view is really more remarkable than one I obtained after toiling to the summit of a Peruvian mountain more than 19,000 feet above the sea. You overlook a vast circular panorama of mountain, city, and sea in form and color no painter can adequately portray.

Sugar Loaf should be called "The Crouching Lion." The giant monolith is far too majestic for its present name. Its crest is reached from Vermelha Beach, on the Rio shore, by aërial ropeway. The car lands you first on the summit of a lesser rock, Urça, where there is a park and restaurant, the second longer flight carrying you high above the forest, with the sensation of sailing in a balloon. On up you float, skirting the great granite cliff, landing at last on the very peak of the rock. A cyclopean task, the building of this aërial railway!

The view, while altogether different from the Corcovado panorama, is magnificent. You are well out in the bay, directly above the forts which guard the entrance, looking back on Rio's crescent shore. As the glowing coppery sun drops behind the jagged mountain tops, dusk envelops the land in a mystic reddish haze. One by one the lights of the city gleam out. Night falls and Rio is a bejeweled goddess on a purple velvet throne.

A SUGGESTION TO THE SHOPPER IN THE BRAZILIAN CAPITAL

"What," asks the prospective tourist, "can I buy in Rio—something distinctly Brazilian?"

If you yearn for a parrot or a monkey, both are on sale in the city's mammoth market by the waterfront, with its sixteen miniature streets and four hundred and seventy-two compartments. With the exception of the little brown monkeys, the whistling sabiás from the hills back of Rio, and the scarlet-crested birds from Rio Grande do Sul, all the animals and birds come south on "coasters" from northern Brazil, and can be bought for less money in Pernambuco, on your way home.

Brazilian diamonds come from the near-by State of Minas Geraes. They are not as large or as clear as South African gems. Other native stones of lesser value include the amethyst, topaz, aquamarine, and tourmaline, the last in many colors.

It is easy to go sightseeing in Rio. Automobiles, which here observe no speed limit, rent for ten milreis an hour—about three dollars in our money at the present rate of exchange. Victorias, drawn by a smart pair of mules, are less expensive.

FIRST-CLASS TROLLEY LINES AND THREE-CENT FARES

Horses are nearly obsolete, an epidemic having carried them off many years ago. Were it not for equestrian statues in the parks and the occasional appearance of the Brazilian cavalry, the little Fluminese might acclaim a horse in the "zoo" as a strange and interesting animal.

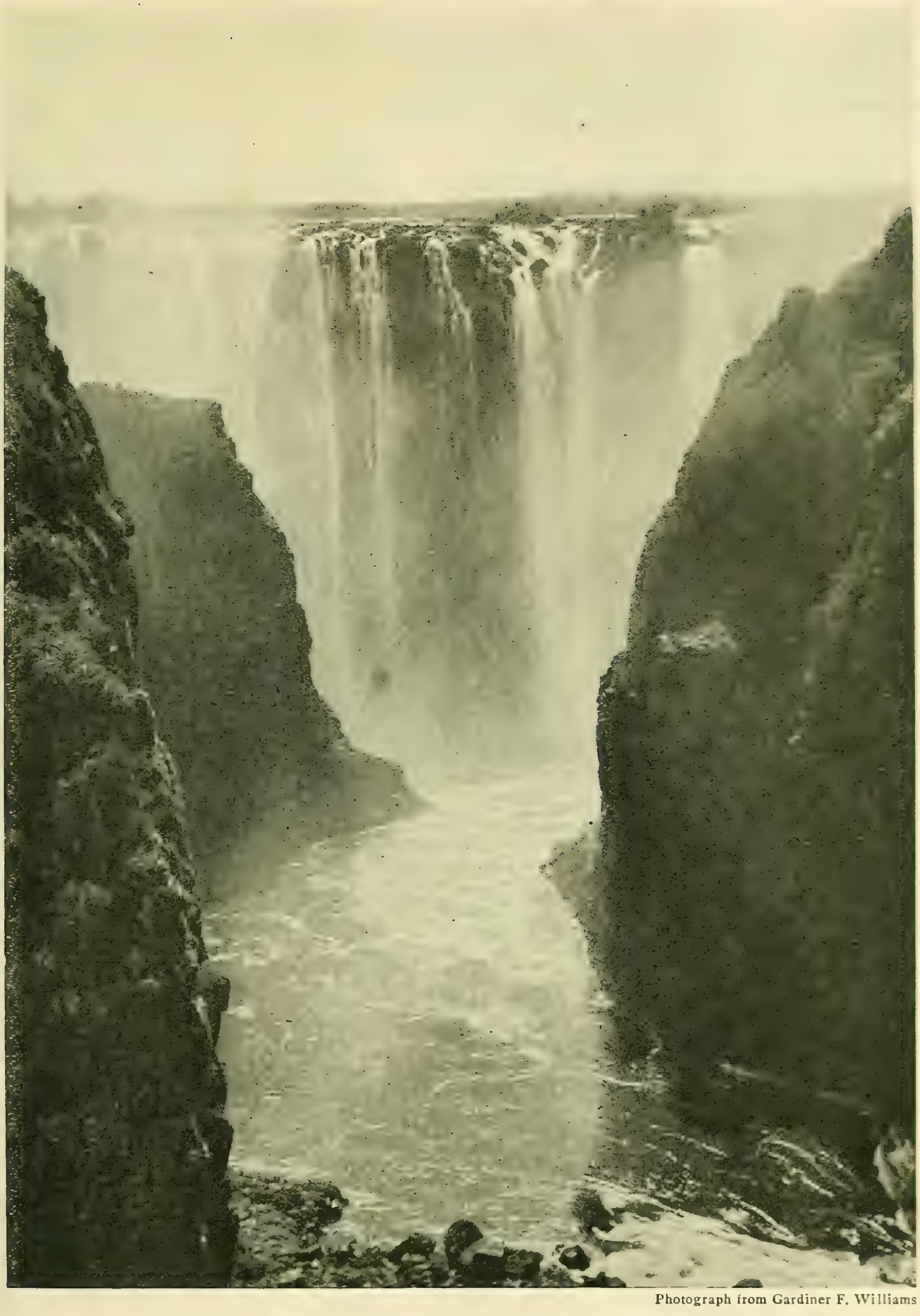
In no other city which I have visited is trolley riding so delightful. The Canadian company, known locally as "The Light," supplies electric power and operates an elaborate system of trams, or "bonds," as the Brazilians call them. The first electric road issued bonds; hence the name.

To every part of the city, to the mountains, ocean beaches, and far-distant suburbs, these trams carry you in comfort. The open cars are large and solidly built. No crowding is allowed; every one is seated. Smoking is permitted on all but the first three seats. The fare varies with the distance, one hundred reis (about three cents) for each section. There is little or no dust in Rio, which adds greatly to the pleasure of the ride.

I have twice visited this Brazilian fairy-land. I long to return. Now and then on our way through life we meet a man or a woman with an individuality which grips, and now and then on the wide world trail we find a scene which dominates. Such is Rio de Janeiro, City of Lure.

So long as glory of form and color gladden the eye, Rio will stand preëminent in beauty among the habitations of man.

* * *



Photograph from Gardiner F. Williams

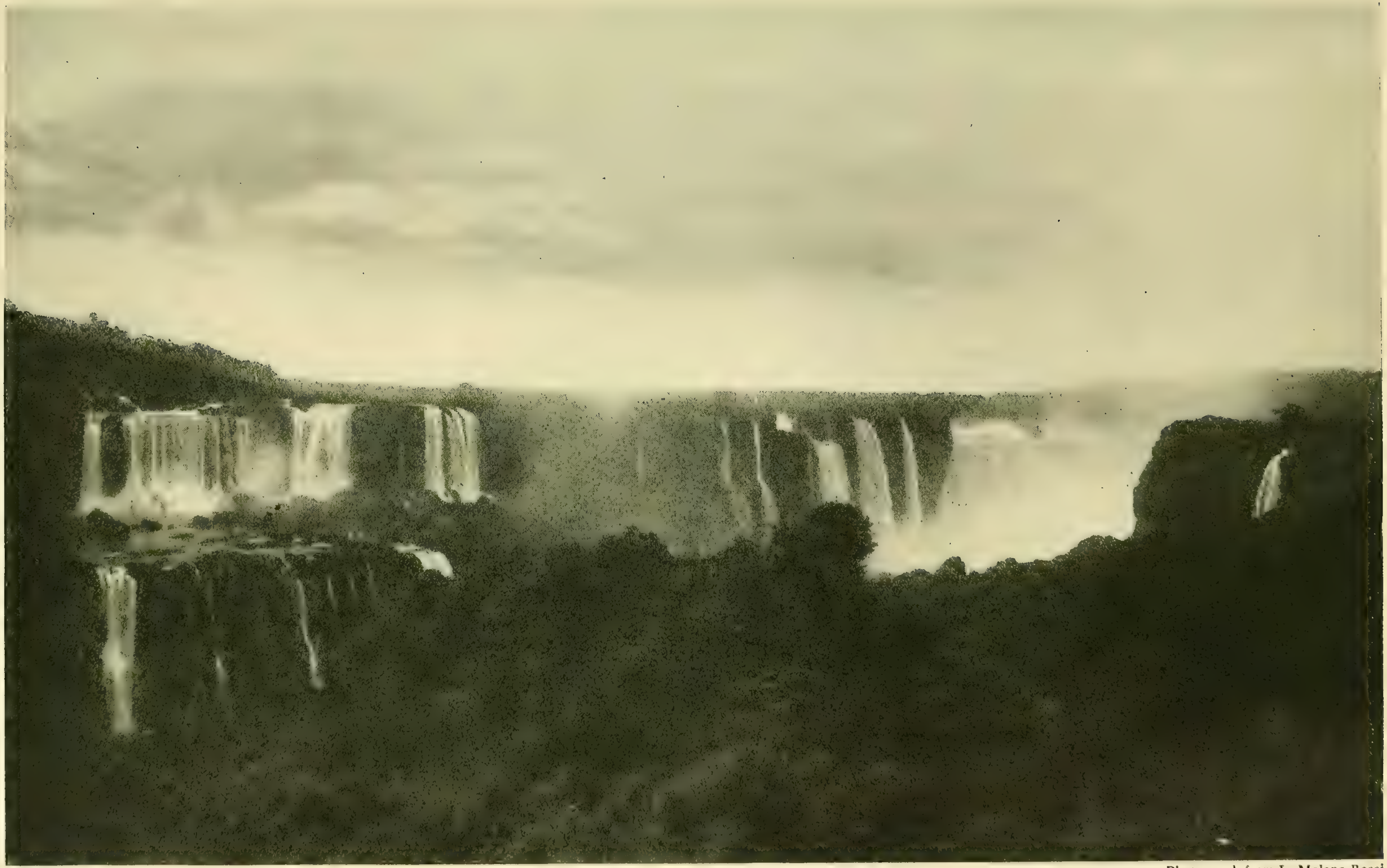
A LASTING TRIBUTE TO A NOBLE QUEEN: VICTORIA FALLS ON THE ZAMBEZI, SOUTH AFRICA

This famous waterfall was discovered in 1855 by David Livingstone, and by him named for England's queen. Today the railway bridge which crosses the narrow canyon below the cascade is an important link in the Cape-to-Cairo line. Varying from 256 to 343 feet in height and more than a mile in width, the falls of the Zambezi plunge from a basalt escarpment to a narrow chasm, parallel to the face of the cataract, to which this narrow gorge is the only outlet.

Photograph by Ernest Fox

WHEN THE MOON LIGHTS THE DIAMOND HORSESHOE OF NIAGARA

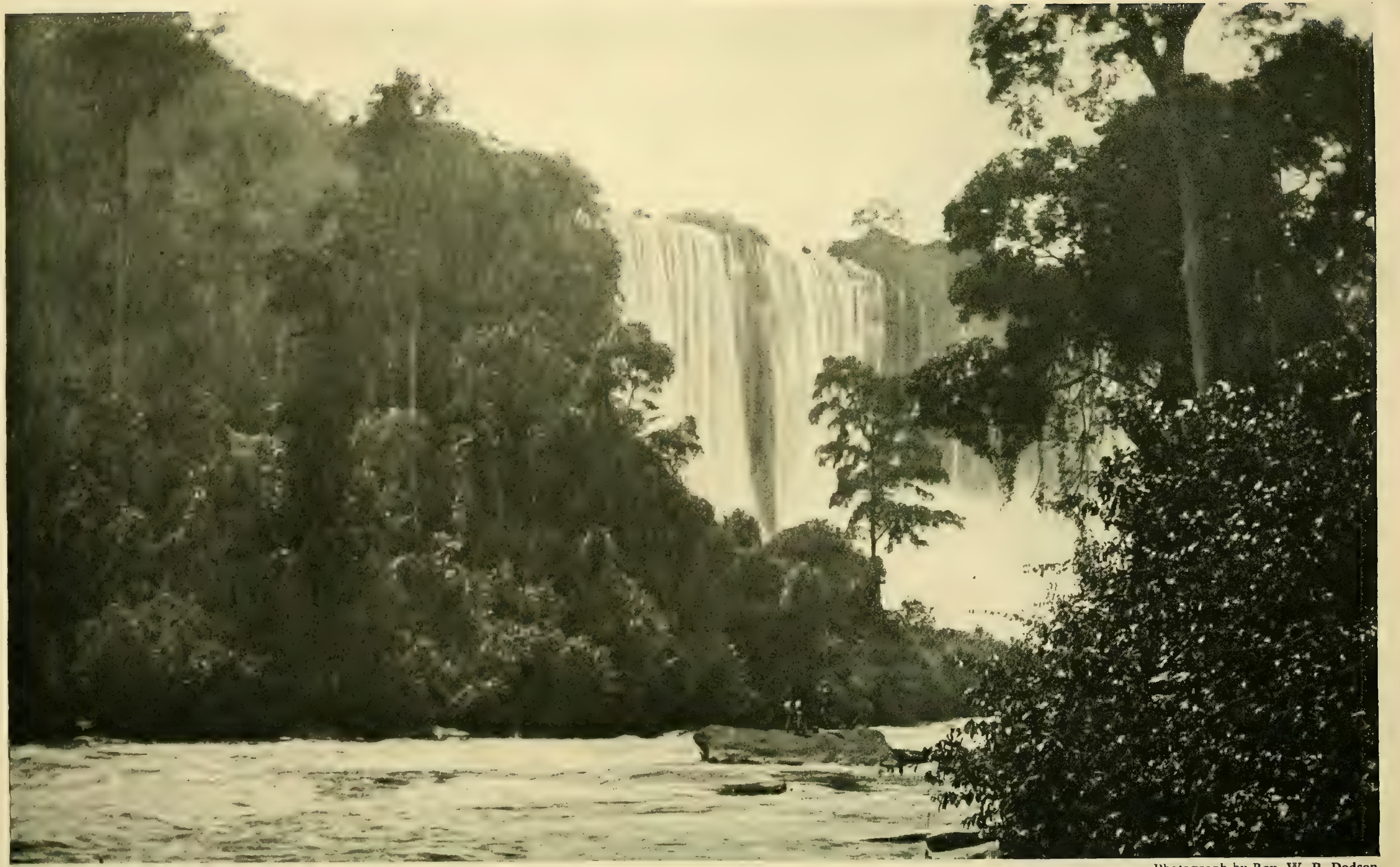
The falls of Niagara have been pictured to countless visitors in a thousand ways. Now stunning with immensity, now charming with the wind-whipped wisps of slowly settling spray, now deafening with the stentorian voice of many waters, the wondrous spectacle is many things to many men. Jack Frost transforms its moving mass into an inert glacial wall. But never is the eery grace of Niagara better shown than when the white light of the moon touches with fairy phosphorescence the dark masses of rushing water.



Photograph from L. Melano Rossi

THE BASHFUL FALLS OF THE IGUAZU

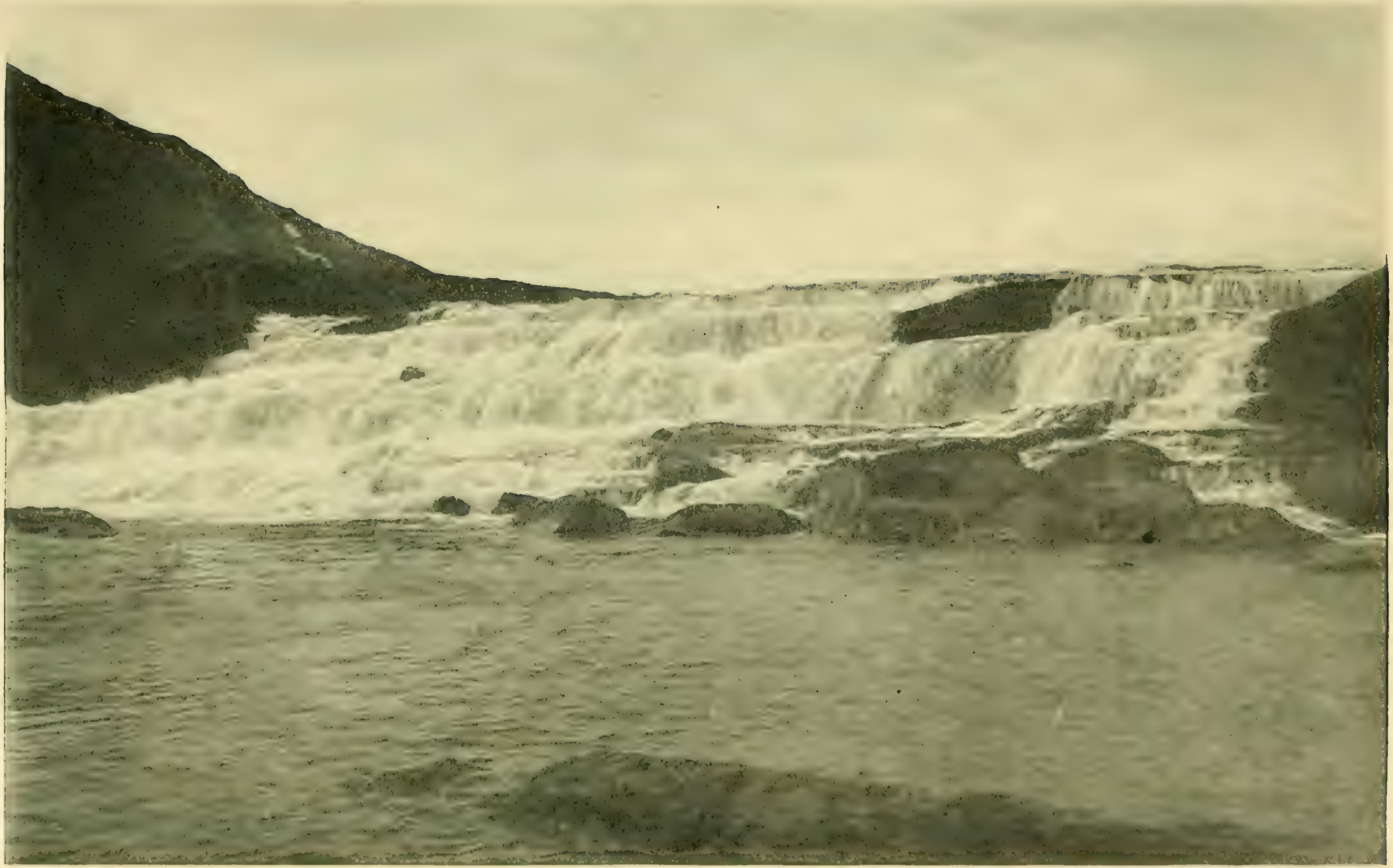
Hiding in the wild wooded country near the spot where Brazil, Paraguay and Argentine meet are the falls of the Iguazu. Twenty or more cataracts averaging 200 feet in height and separated by rock masses and tree-clad islands here seek to conceal their loveliness behind a veil of mist, and only when a friendly wind dissipates the clouds of spray can the falls be clearly seen. Light draft steamers go up the Parana as far as the mouth of the Iguazu, whence the pilgrim in search of such secluded loveliness must take a native canoe.



Photograph by Rev. W. P. Dodson

CASCADE OF DIANZUNDU, LUCALLA RIVER, PORTUGUESE WEST AFRICA

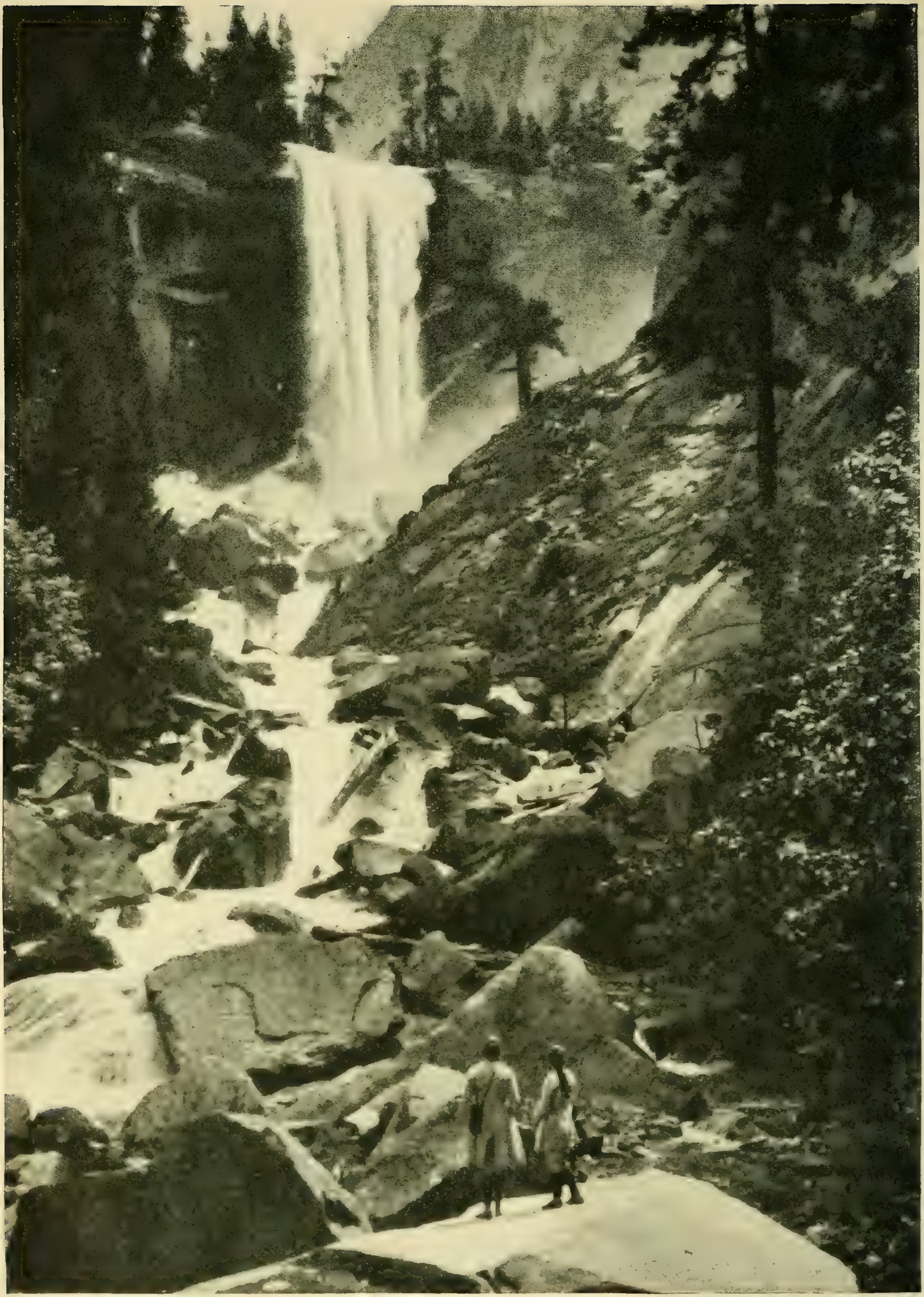
Like the Falls of the Iguazu, the cascade of Dianzundu is not formed of one immense cataract, but is a veil of water spread across the face of a stratified cliff, surrounded by dense jungle. The main falls are at the extreme left and from there the waters spread out to many times their height of 200 feet, producing a most pleasing bit of light and motion.



Photograph from Ernest L. Harris

FALLS OF THE STORA SJOFALLET, SWEDEN

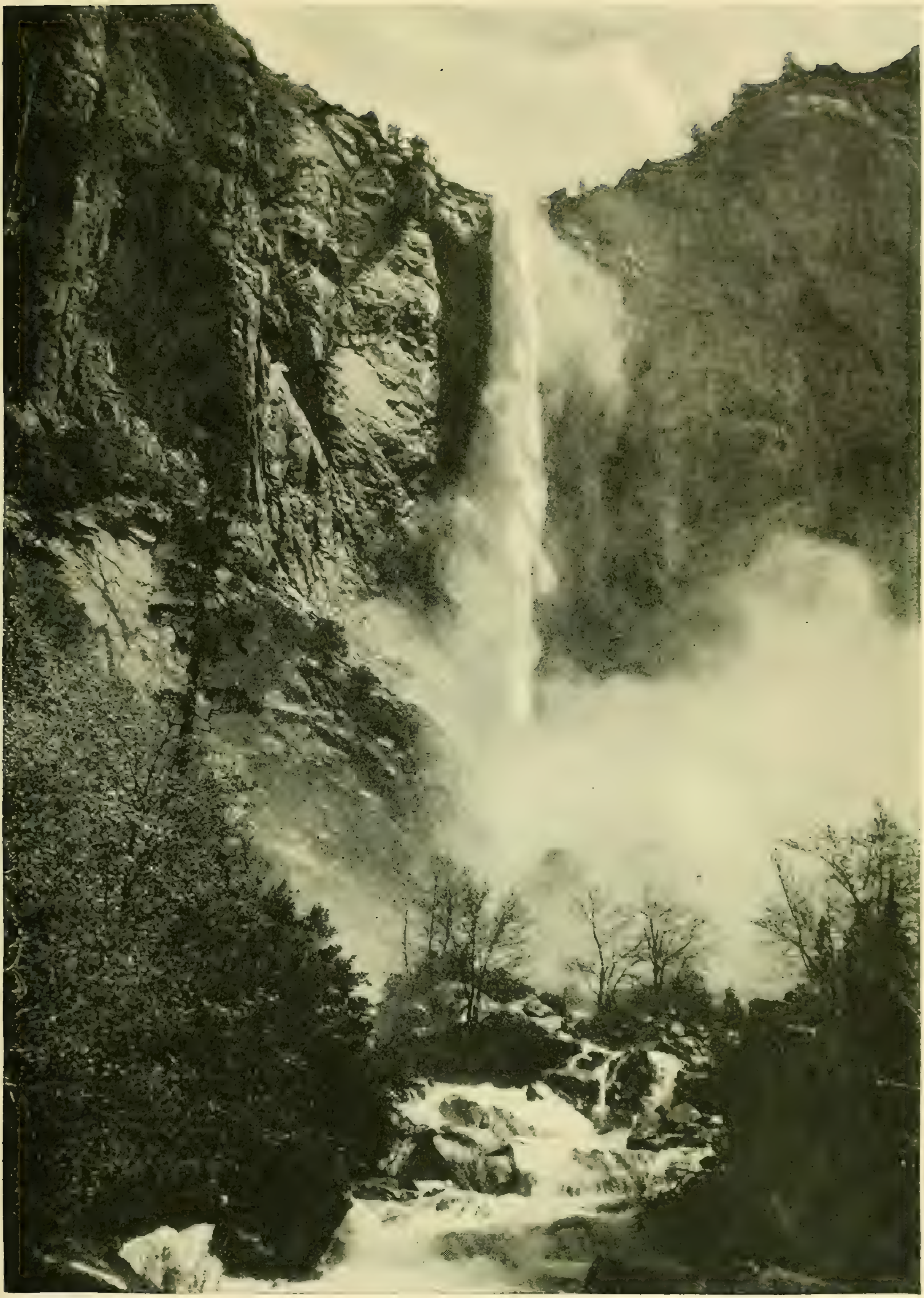
Like the waves on a rugged coast are the successive reaches of tne Stora Sjofallet. There is a sheer fall of 100 feet and a mile and a quarter of rapids in which there is a drop of 150 feet. This beautiful cataract is situated in an uninhabited region in the extreme north of Sweden.



Photograph by H. M. Fillebrown

VERNAL FALLS, YOSEMITE NATIONAL PARK, CALIFORNIA

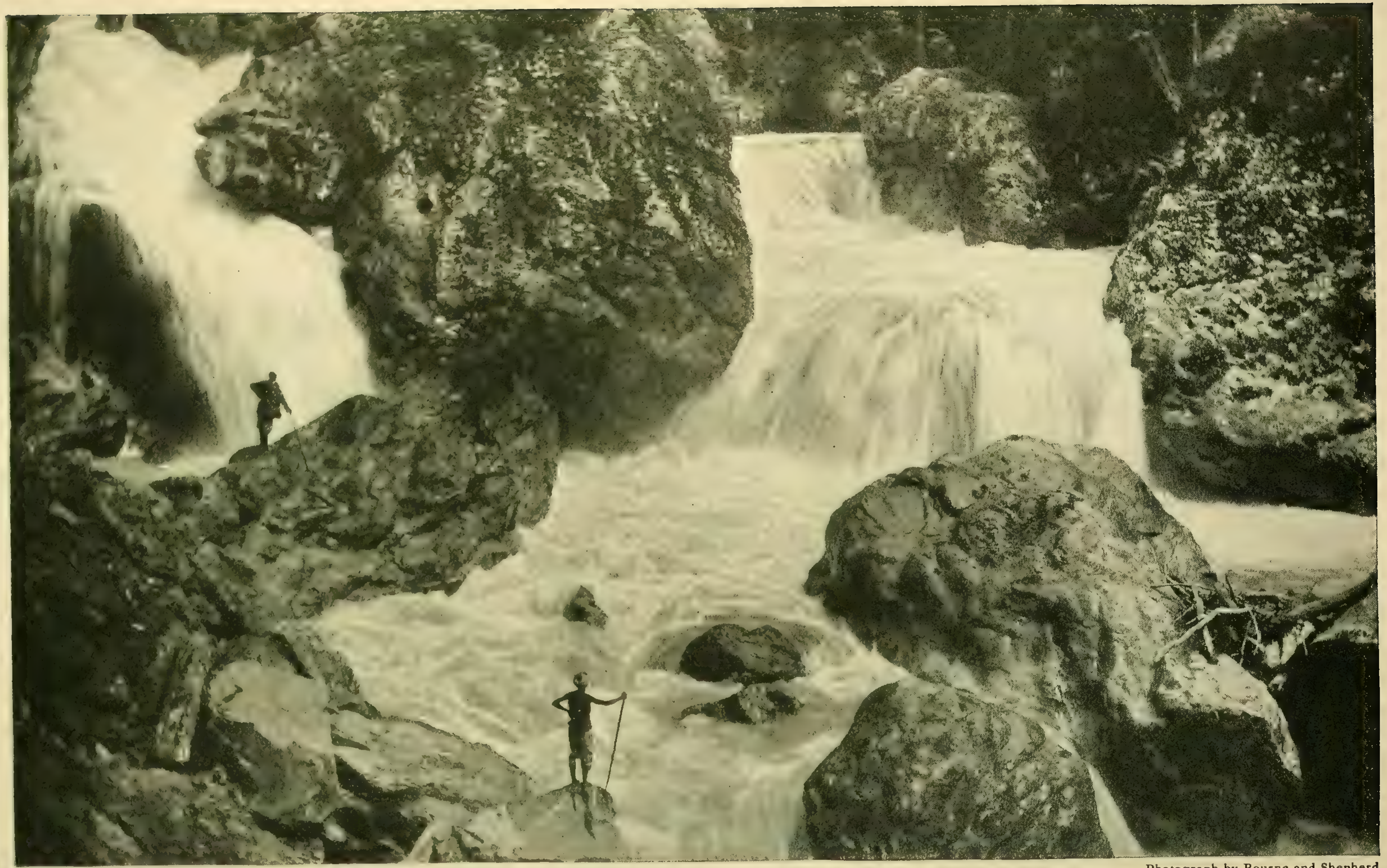
Conventional in outline, massive in its power, Vernal Falls, 317 feet high, gains not a small portion of its charm from the rock-strewn path of its foaming waters below the precipice. Good horse trails lead to points of vantage from which to view the main cataract and a lookout point is balanced on the very brink, but to many the loveliest view is that of the rugged valley looking toward the cascade projected against the mountain peaks that gave it birth.



Photograph by Gabriel Moulin

BRIDALVEIL FALLS, YOSEMITE NATIONAL PARK, CALIFORNIA

Like loving bridesmaids the friendly winds of the Yosemite Valley are continually seeking a more charming drapery of the Bridalveil. Masses of water, which would kill a man or smash to bits a rock less durable than the granite against which only the patient glacier has proved its power, here fall like lightest fabrics to the valley floor. The valley which was once filled by a lake is now carpeted with flowers reaching from the towering cliffs against which the bridal veil is hung to the sparkling waters of the Merced River.

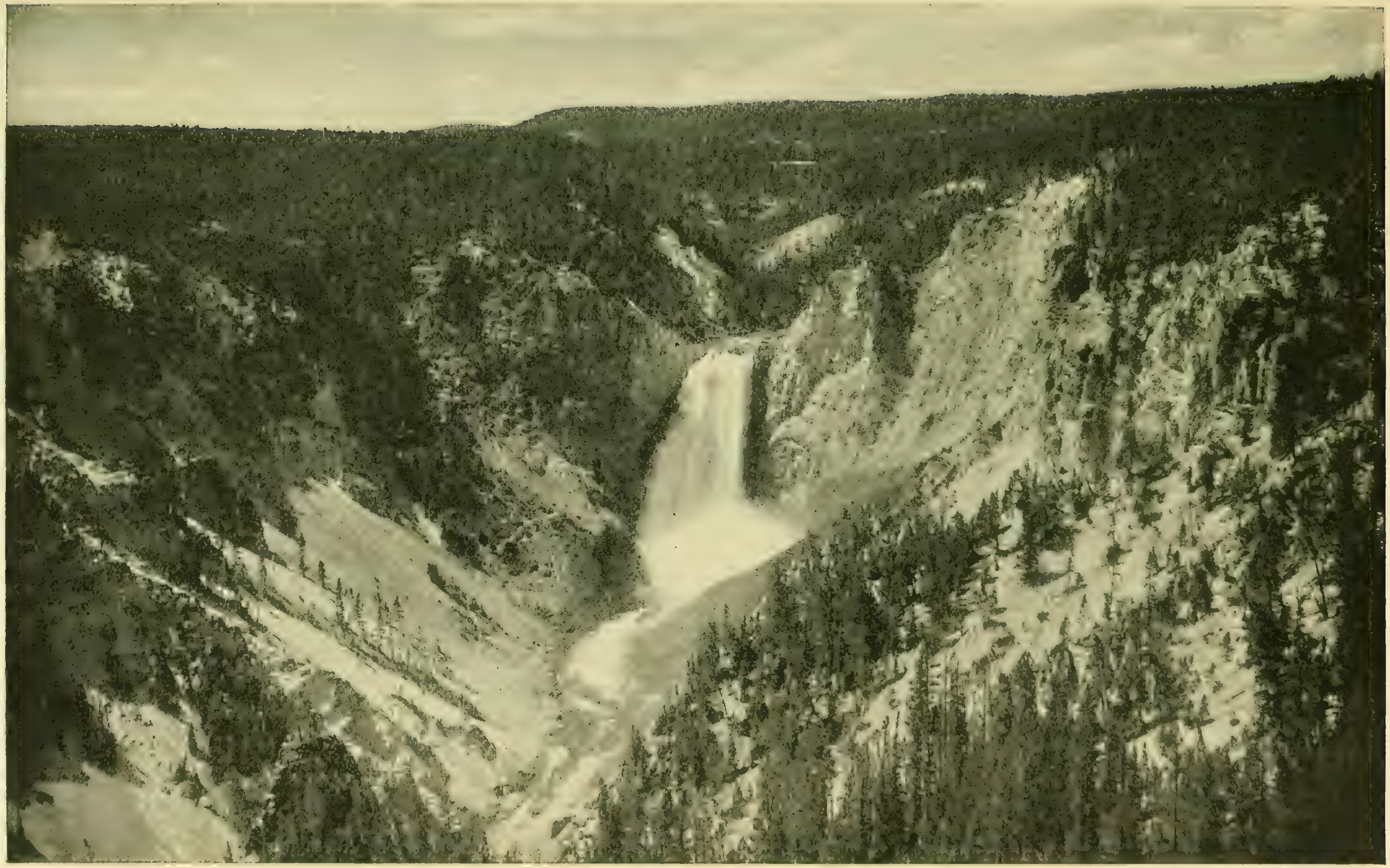


Photograph by Bourne and Shepherd

CASCADES BETWEEN PRESLANG AND TANNIN, INDIA

These lovely waterfalls, whose voices echo through the dense jungle in the midst of which they are hidden, are little visited by foreigners. But when the rainy season comes and the rush of waters reaches its maximum, the Indian philosopher might well come here to ponder on the insignificance of man. There is an awe-inspiring sublimity about such rugged beauty which appeals to the mind of the contemplative East.

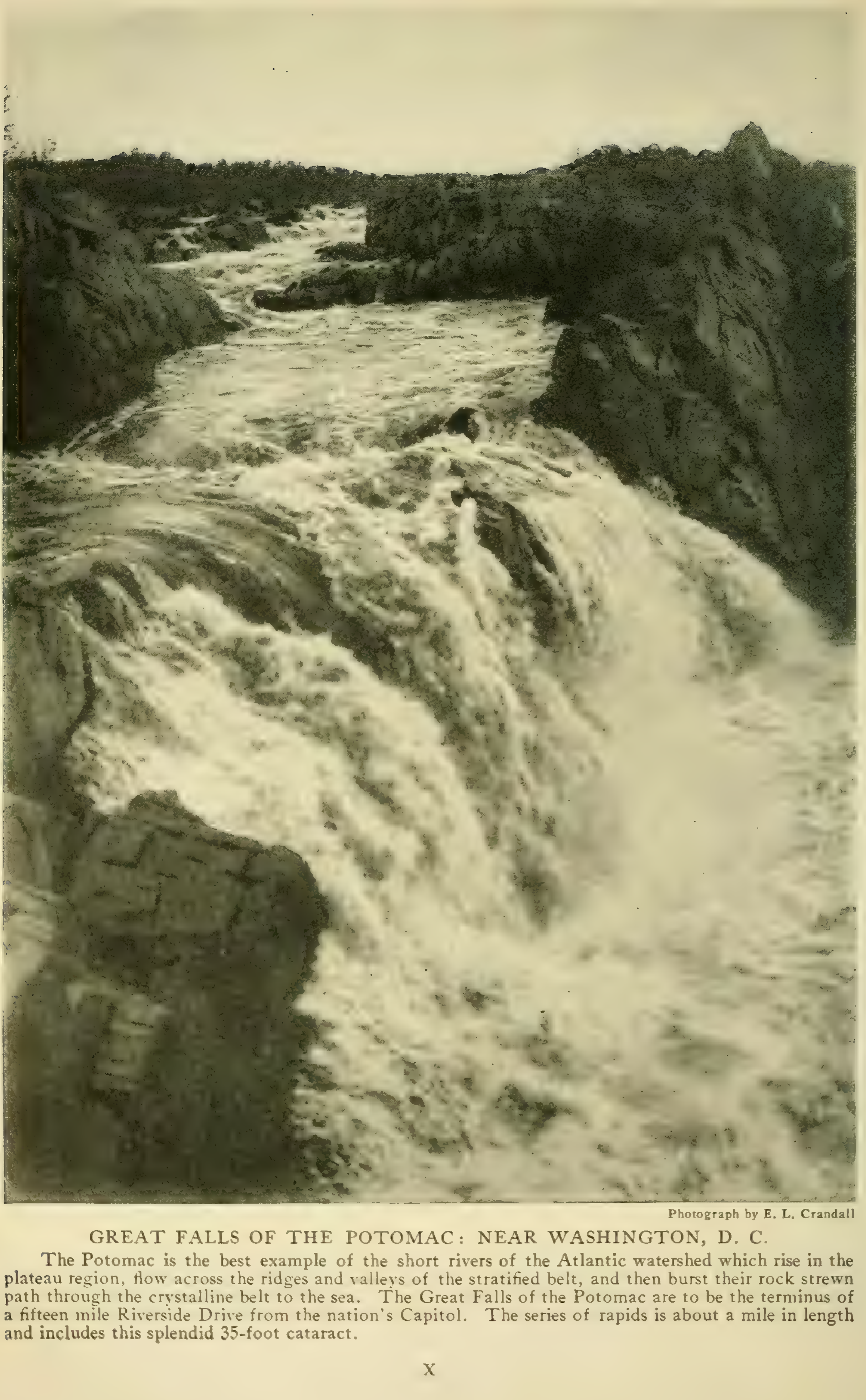
IX



© A. Schlechten

LOWER FALLS OF THE YELLOWSTONE, FROM LOOKOUT POINT, WYOMING

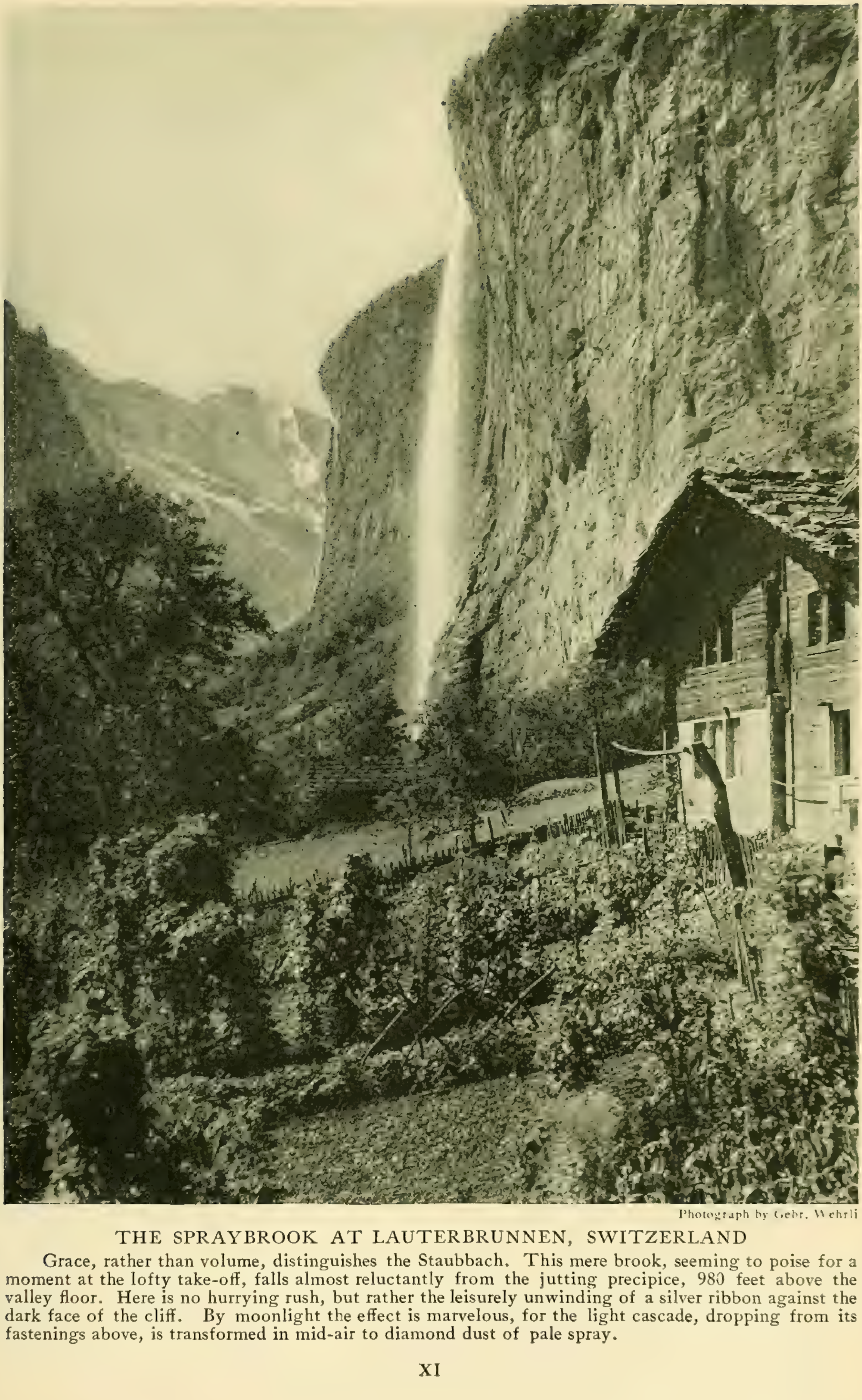
A canyon more verdant and colorful than the Grand Canyon of the Colorado; a limpid-green river, sequin-trimmed with snowy riffles and glistening foam; and a graceful, regular waterfall, almost as high as two Niagaras fill the view from Lookout Point. Yellowstone Park comprises 3348 square miles of wilderness and wonderland for man and beast and is the greatest wild bird and animal preserve in the world.



Photograph by E. L. Crandall

GREAT FALLS OF THE POTOMAC: NEAR WASHINGTON, D. C.

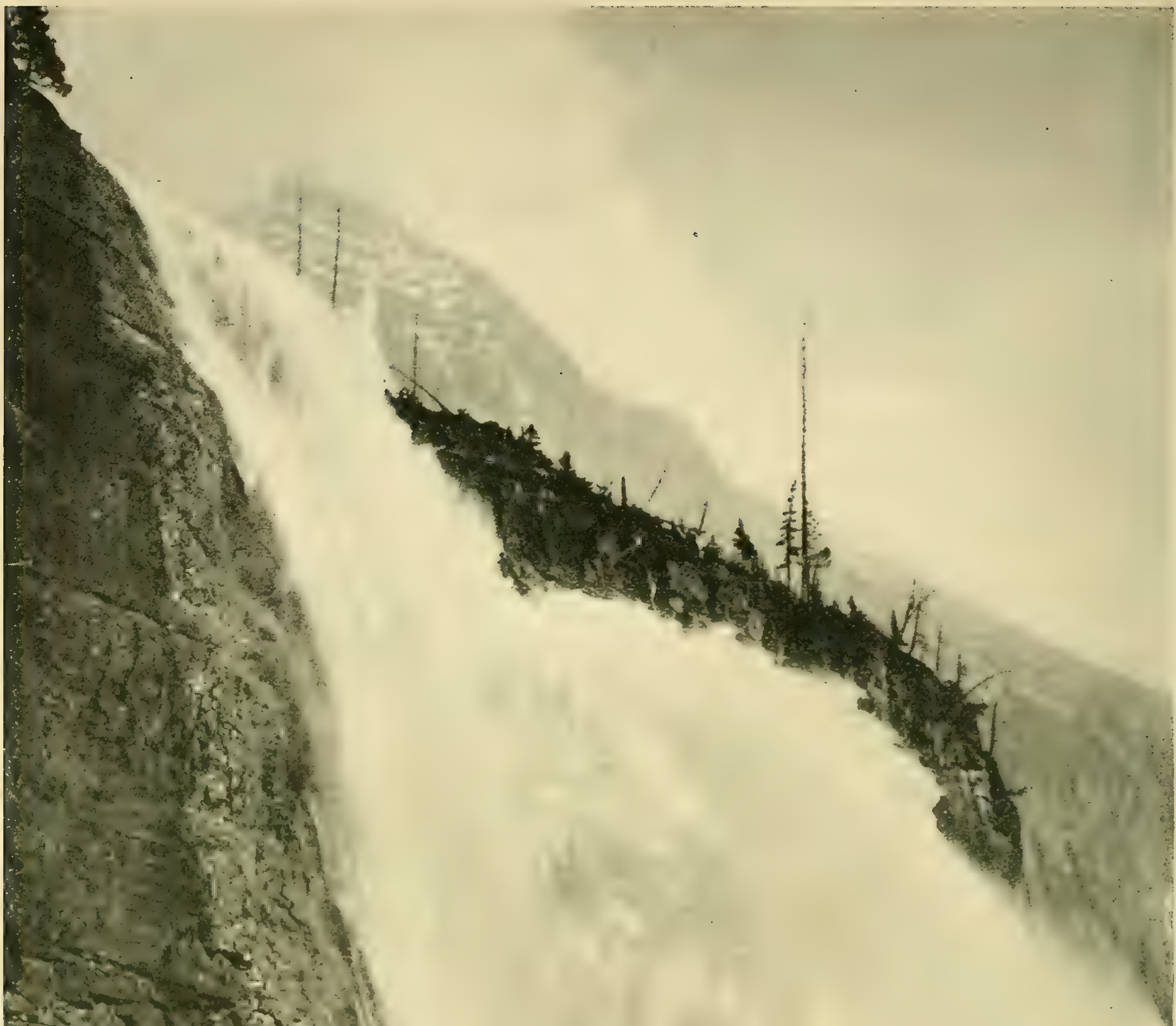
The Potomac is the best example of the short rivers of the Atlantic watershed which rise in the plateau region, flow across the ridges and valleys of the stratified belt, and then burst their rock strewn path through the crystalline belt to the sea. The Great Falls of the Potomac are to be the terminus of a fifteen mile Riverside Drive from the nation's Capitol. The series of rapids is about a mile in length and includes this splendid 35-foot cataract.



Photograph by Gebr. Wehrli

THE SPRAYBROOK AT LAUTERBRUNNEN, SWITZERLAND

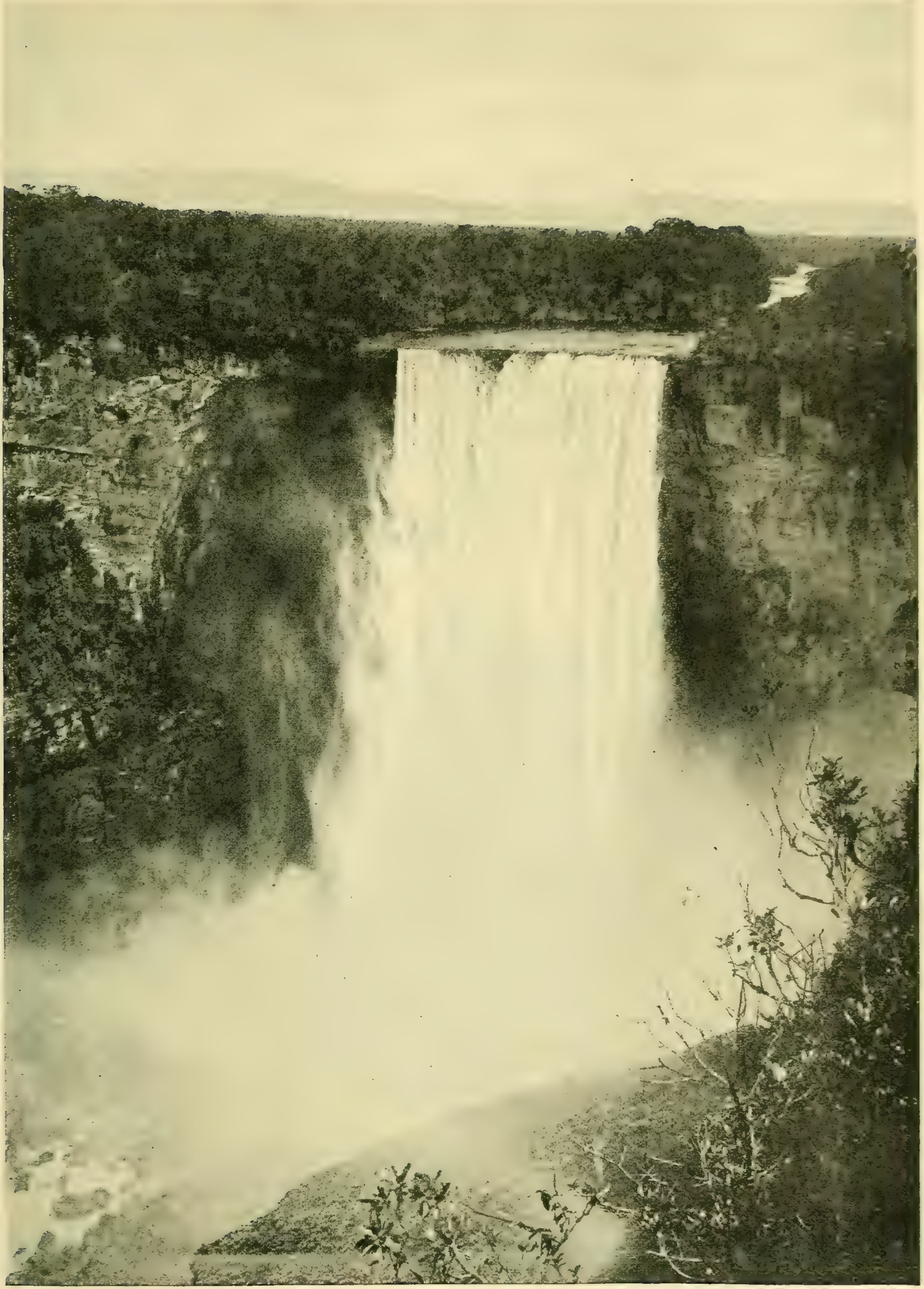
Grace, rather than volume, distinguishes the Staubbach. This mere brook, seeming to poise for a moment at the lofty take-off, falls almost reluctantly from the jutting precipice, 980 feet above the valley floor. Here is no hurrying rush, but rather the leisurely unwinding of a silver ribbon against the dark face of the cliff. By moonlight the effect is marvelous, for the light cascade, dropping from its fastenings above, is transformed in mid-air to diamond dust of pale spray.



Photograph by R. C. W. Lett

EMPEROR FALLS, ON THE GRAND FORK RIVER, BRITISH COLUMBIA

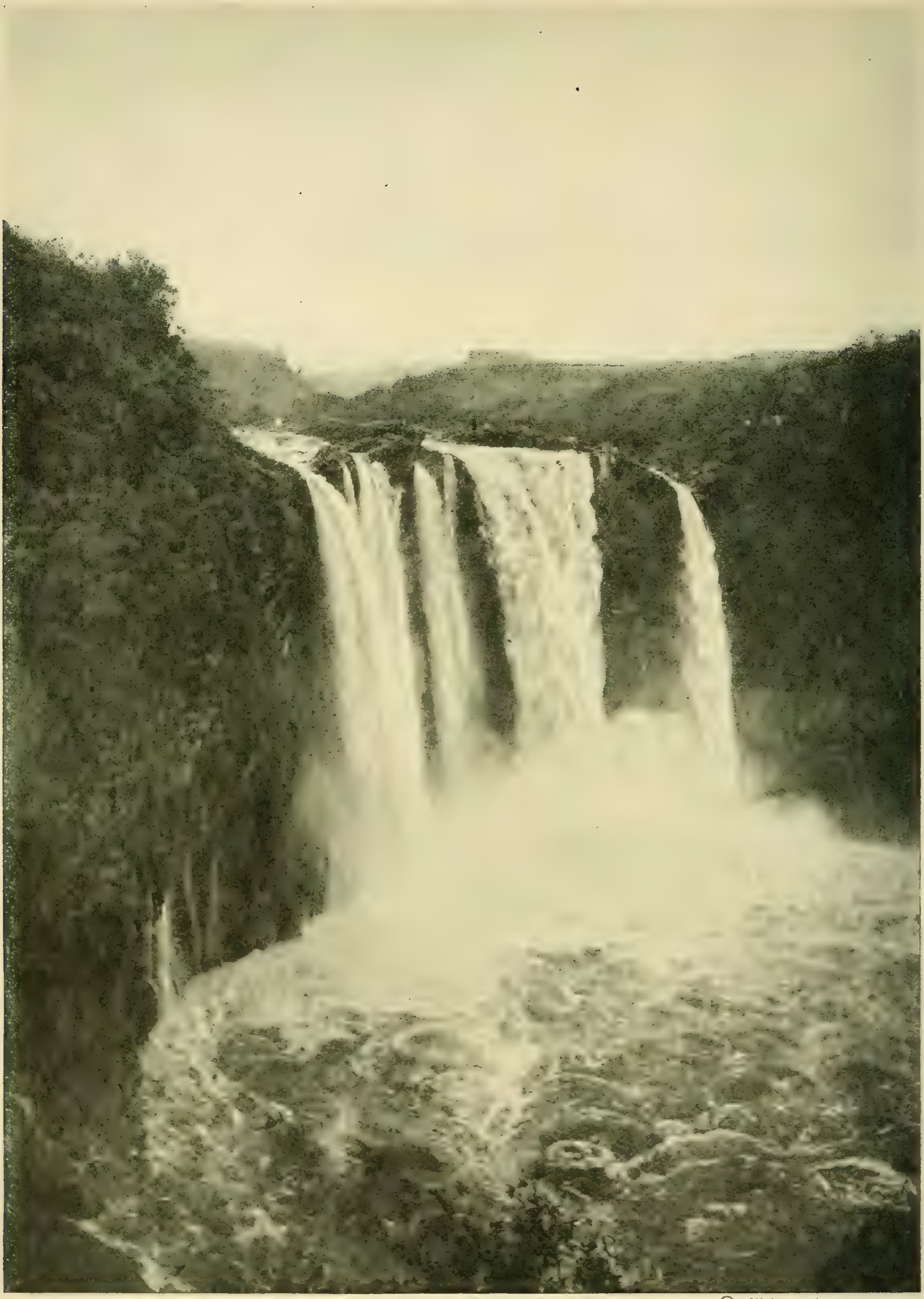
The Norway of the North American continent is Southeastern Alaska and British Columbia, distinguished more for deeply indented coasts, gloomy fiords, and archipelagoes of innumerable islands than for inland rivers. Yet in such rugged, mountainous country, the rivers gain a certain magnificence from the wildness of their surroundings and the waterfalls range from the roaring cataracts of the narrow canyons to mist-like streams whose silvery ribbons cut the rugged faces of stupendous precipices.



Photograph from Henry E. Crampton

KAIETEUR FALLS, HIDDEN IN THE FORESTS OF BRITISH GUIANA

Situated in the midst of a highland forest near the center of British Guiana, these falls have the shape of the old Roman door, being twice as high as they are broad. They occupy the center of a vast amphitheatre and form a perfect example of the type of waterfall where the water, passing over a hard ledge, gradually carves a gorge through the softer rock below. The Potaro River, in whose course the Kaieteur Falls occur, is an affluent of the Essequibo and traverses a tropical forest whose dark background gives added beauty to this silvery cascade, 741 feet high.



© Pillsbury Picture Company

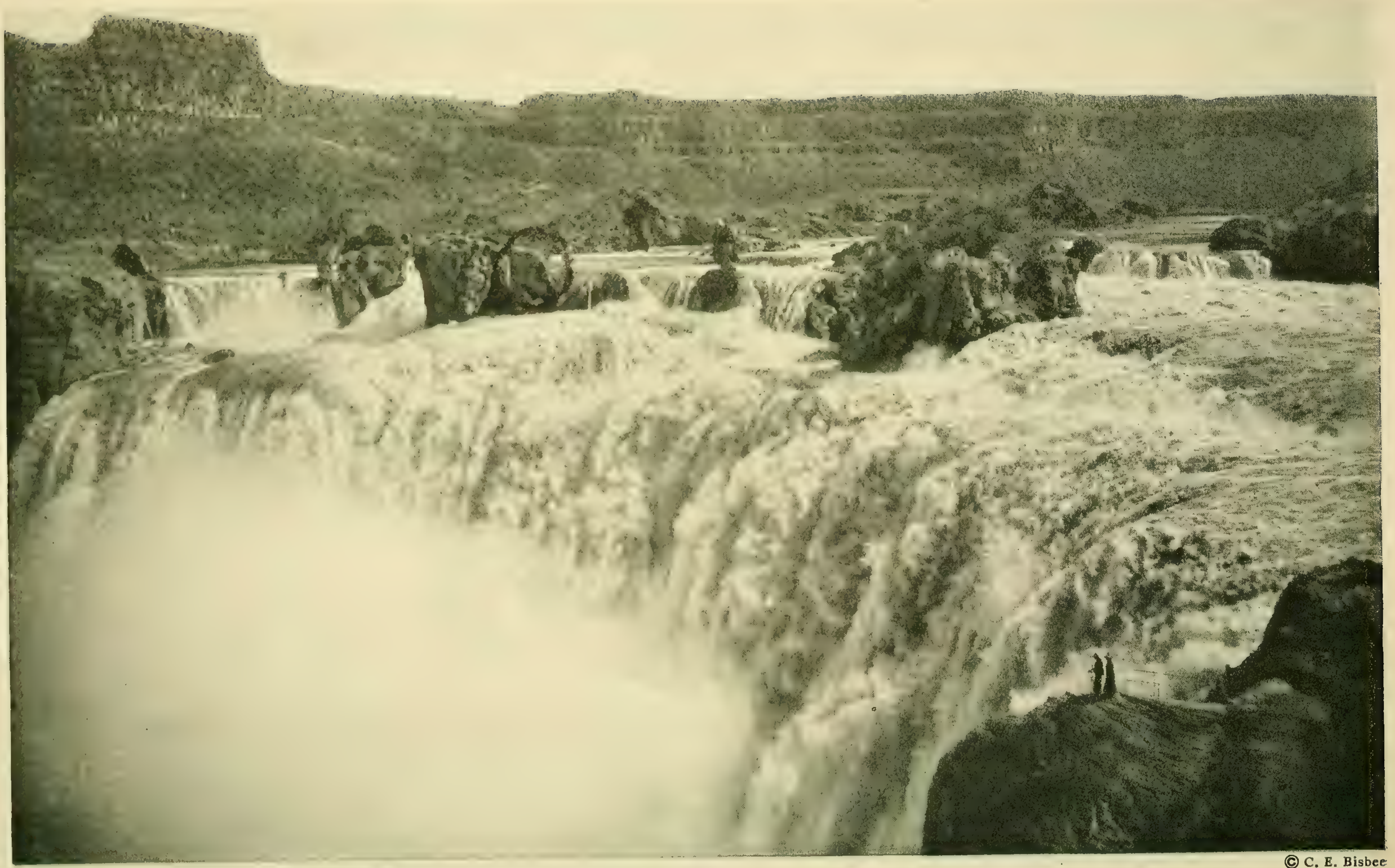
RAINBOW FALLS, JUST OUTSIDE THE CITY LIMITS OF HILO, HAWAII

Hilo is not only the second city of the Hawaiian Islands and the chief port of the largest of the group, but is also the gateway to Kilauea (next to Mt. Katmai the largest active crater in the world), Mauna Kea, the highest mountain peak, and Mauna Loa, which recently gave a spectacular exhibition of volcanic activity. Hawaiian rivers are small mountain torrents, rising and falling with the rains, but the hills back of Hilo sometimes have 250 inches of rain in a year, and when the river is at flood Rainbow Falls form a striking picture and their thunder can be heard throughout the city.

Photograph by A. B. Wilse

WHERE THE TOURIST STEAMER DISPLACES THE BURRO AND THE AUTOMOBILE: SEVEN SISTERS, NORWAY

One of the most beautiful of Norway's many famous fiords is the Geiranger, noted for its towering walls and numerous waterfalls. Those here shown are known as the Seven Sisters. Many of the smaller falls partly dry up in summer so that only a filmy tracery shows against the beetling cliffs.



© C. E. Bisbee

SHOSHONE FALLS: IDAHO'S INEXHAUSTIBLE WHITE COAL MINE

The most striking physiographic feature of southern Idaho is the Snake River, along whose crooked course fertile plains alternate with rugged stretches where the "white coal" of waterfalls awaits the modern engineer. Although modern electric power plants, each developing several thousand horse-power, have been installed at several places along the Snake River, less than three per cent of the available power is now utilized.

KAIETEUR AND RORAIMA

The Great Falls and the Great Mountain of the Guianas

By Henry Edward Crampton, Ph. D.

With Illustrations from Photographs by the Author

AS THE field for thorough scientific exploration, South America is at last coming into its own.

The great bulk of Africa has yielded up its secrets with astonishing rapidity since the not-distant days of Livingstone and Stanley—men whose work has been done within the memory of our elder generations.

But, until very recently, our sister continent of the South has remained what Africa was in the early nineteenth century: cities had been built along the coasts and at some inland points, precious minerals had been sought and found in the lofty Andes, but few besides the natives, themselves unknown to science, were aware of what the jungles and plains possessed.

Now the fallow field is receiving ever-increasing attention from men of science, and as the past era was that of Africa, so the present century is claimed by South America.

Although some time has elapsed since the writer made a journey of scientific exploration into the little-known interior of British Guiana and northern Brazil, yet the vivid impressions are in nowise dulled or effaced. On the palimpsest of memory the experiences group themselves about two principal focal points—the great falls of Kaieteur, far hidden in the forests of British Guiana, and the table-land of Mount Roraima, a feature of more than geological interest, which lifts its sheer walls at the point where Guiana, Brazil, and Venezuela come together.

The present account tells but a part of the story, which in all of its fullness can never be written; the experiences were unusual and varied, as they must always be in a region where distances are not reckoned in miles, but according to the dangers and difficulties incident to travel.

The general purpose of the expedition, which was undertaken in the interests of the Department of Invertebrate Zoölogy of the American Museum of Natural History, of which department the writer is the curator, was to run a "biological traverse" from the Atlantic Ocean to the heights of Roraima.

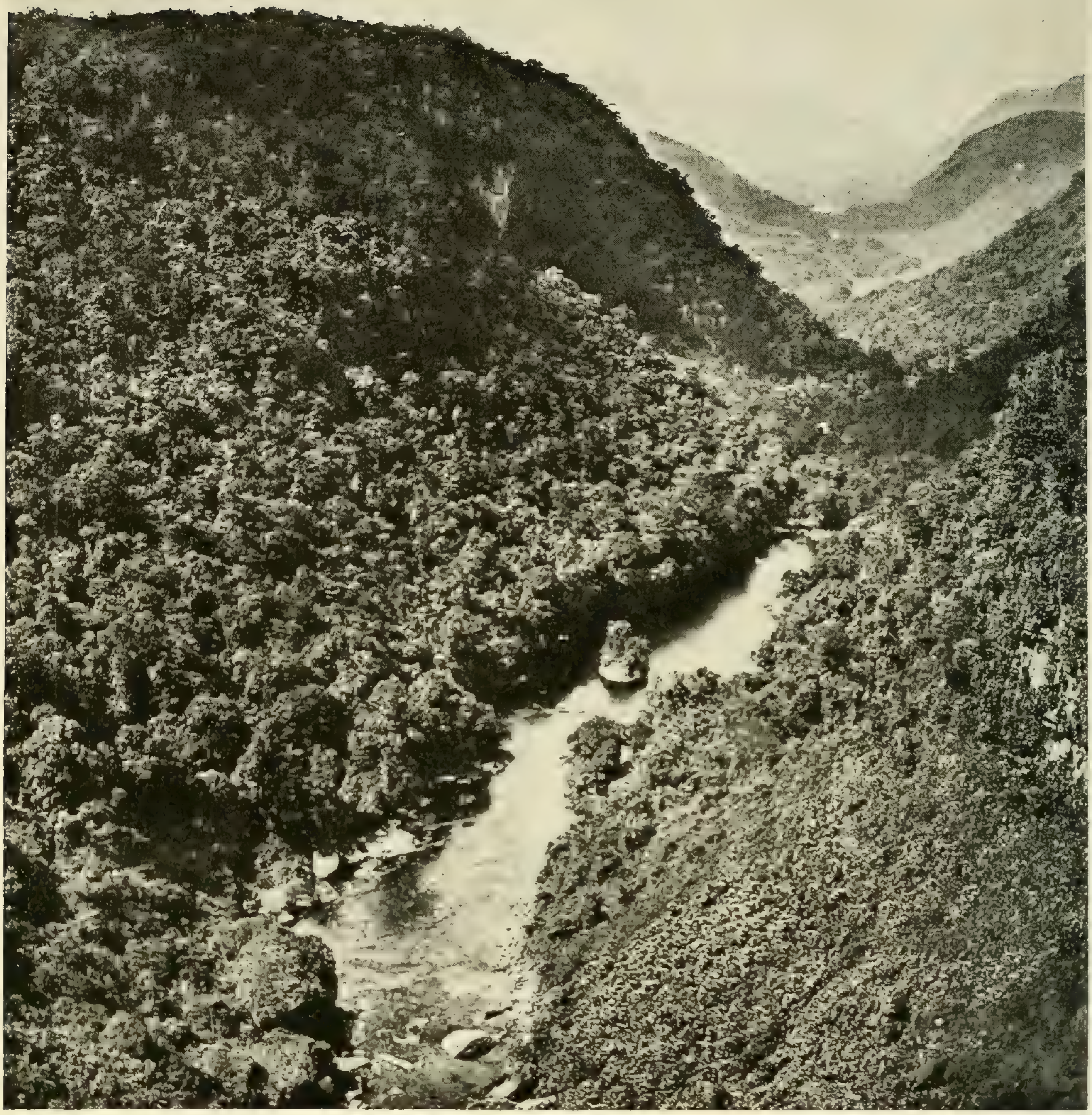
A glance at the topographic map of South America will show that in few other places, outside of the Andes, is it possible to draw a line that will cross so many different types of territory in the same short distance.

WHERE MANY FORMS OF LIFE IN NORTH AMERICA ORIGINATED

From the coastal plains, extending approximately two hundred miles inland from the ocean, an abrupt rise to the higher forests of Guiana and of certain Amazonian tributaries is followed by a similar rapid passage to the dry and open savannas of northern Brazil, and these in turn culminate in the Pakaraima Range of mountains, whose highest element is Roraima.

The region about Roraima was chosen as the goal because of its great geological age and the antiquity of its fauna and flora. From this place originated many of the living forms of the Antilles and of southern North America when the northward retreat of the ice-sheets formed during the Glacial Period permitted the establishment of climatic conditions favorable for organisms of the hot and temperate regions.

Ere the eventful journey was begun, some weeks were devoted to field-work in the Lesser Antilles from St. Thomas southward, especially in Dominica, which far surpasses the other islands in natural beauty. Here the party included Roy W.



THE POTARO RIVER WINDS ON THROUGH THE GORGE OF KAIETEUR, WITH ITS STEEP SIDES A THOUSAND FEET IN HEIGHT

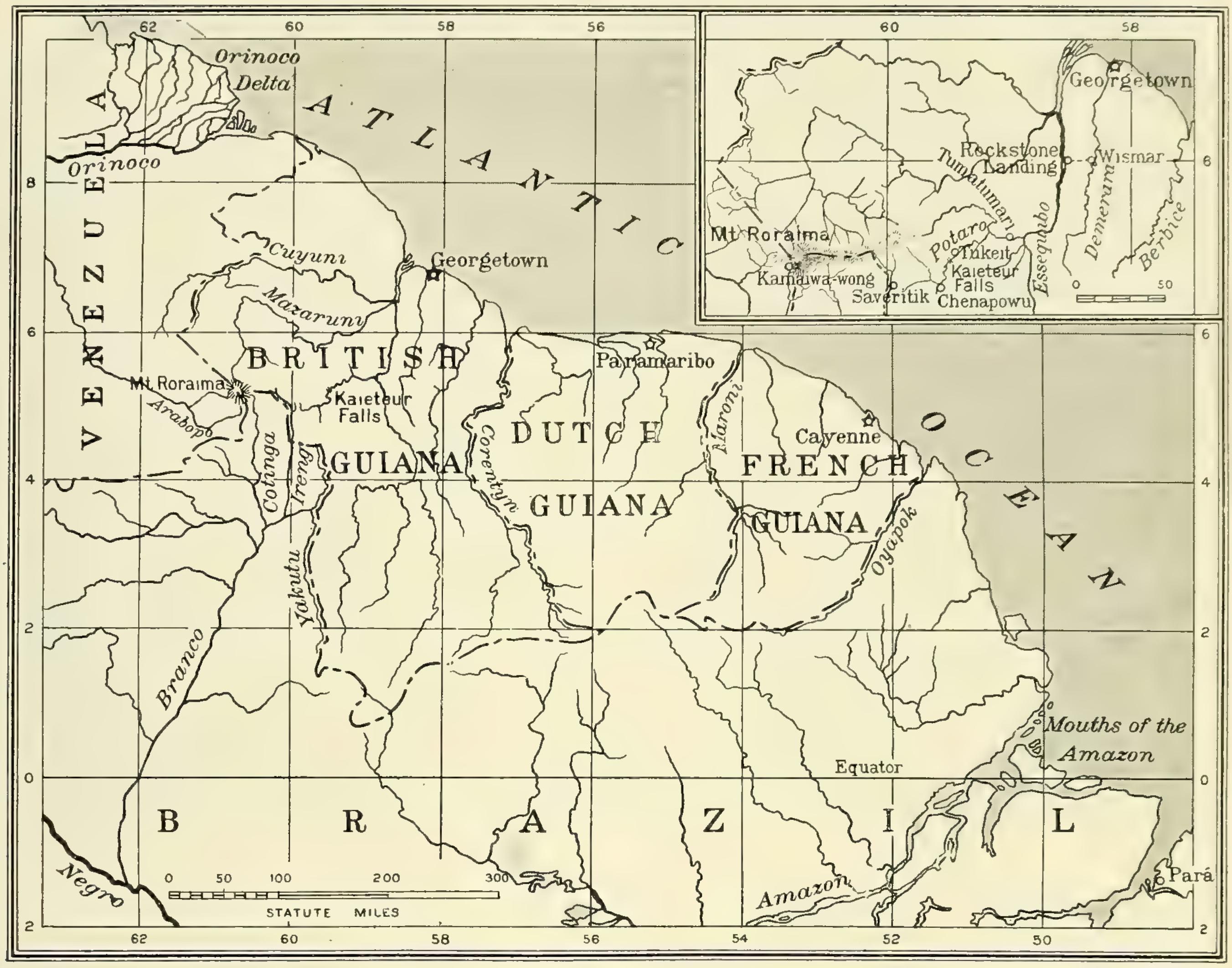
Miner and Frank E. Lutz, both of the Museum staff. Later, with Dr. Lutz, the journey was continued through Martinique and St. Lucia to Georgetown, the capital of British Guiana, which is situated at the mouth of the muddy Demerara River, whose waters far out at sea had indicated the near presence of the continent of mystery.

At this well-built and populous city many new-made friends gave us information and encouragement.

In securing data relative to equipment and lines of travel, we were told by those conversant with the "bush" that our projected route was impracticable, as far as the region between Kaieteur and Roraima was concerned; that twelve months would be required; that perhaps we could return in ten months, but that "we would come back dead!"

This was ominous, in view of the fact that an interval of little more than two months was available! Yet fortune favored, as it transpired, and my journey to Roraima and back was completed in exactly eight weeks.

It was on the 8th of July that we em-



Drawn by A. H. Bumstead

A MAP OF THE GUIANAS, WITH AN INSET SHOWING THE TERRITORY TRAVERSED BY THE "KAIETEUR AND RORAIMA" EXPEDITION

barked with our equipment and an invaluable Hindu servant, Raggoo, for the run of 65 miles south on the Demerara River to Wismar, from which a railroad took us across the flat plains of the alluvial coastal strip to Rockstone Landing, on the Essequibo River—our real point of departure into the interior.

The river was high above its bank and flowed ten feet deep about the pillars supporting the bungalow built here for the rest and recuperation of those coming out of the forests and for a last night of comfort for those making the break from civilization.

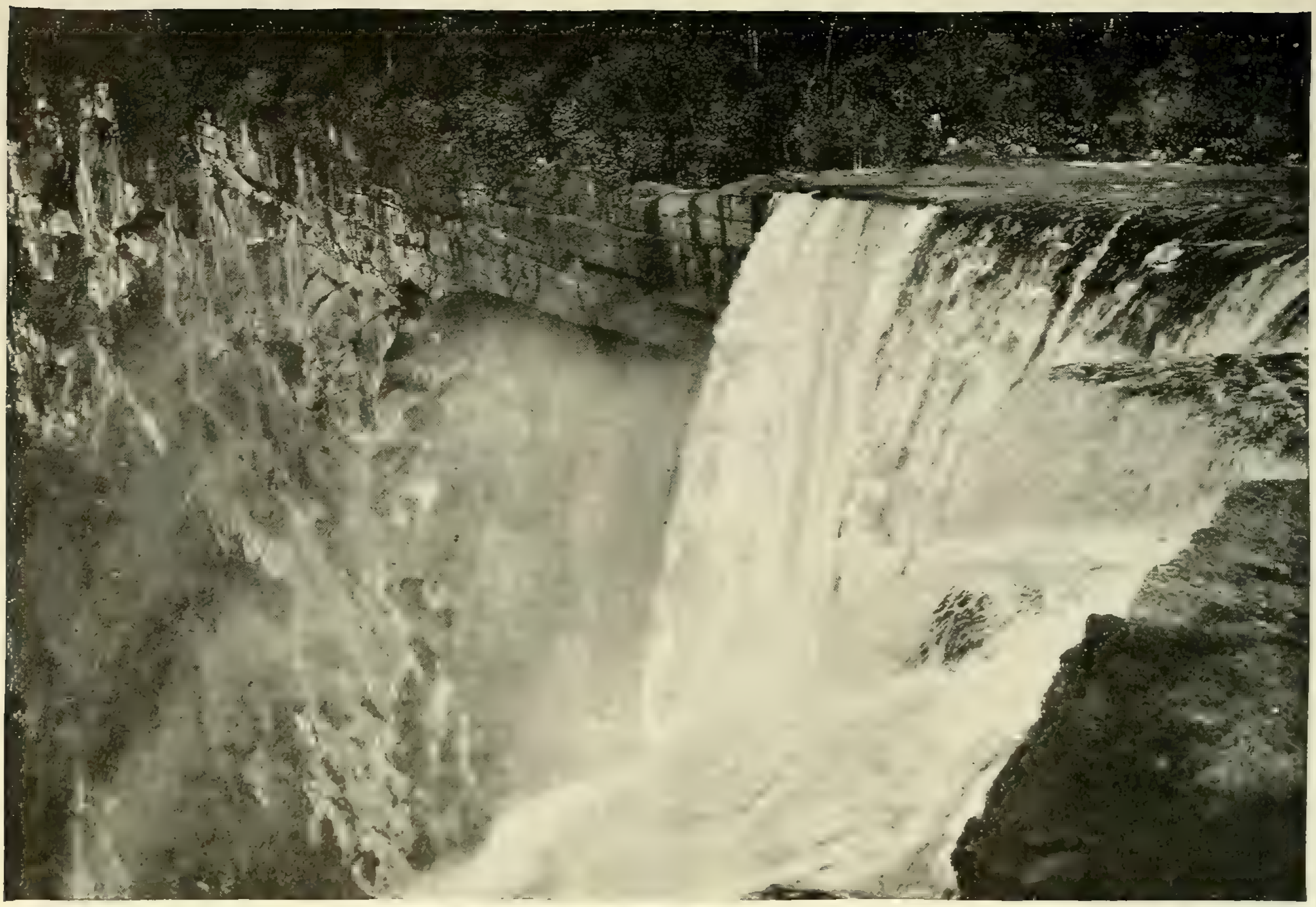
WEIRD NIGHT SOUNDS IN THE "BUSH"

All through the night, our first in the "bush," a chorus swelled from the throats of countless toads and frogs, each with its individual note of deep, booming bass or shrill, piping treble. The fish and alligators splashed in the waters about the house, many of the former falling prey to the servants, who dropped their lines from the convenient windows of the kitchen. Under the late full moon a boat or two of rubber collectors came toward the shore, singing their musical chanteys with rich and powerful voices.

It was a night which can never be forgotten.

The howling monkeys aroused us in the morning by their calls, as they came by families to drink and to bathe at the water's edge. Although one of them is no larger than a terrier, the bony flask at the throat enables it to magnify its call to a resonant roar that is quite the equal of a jaguar's at feeding time in the menagerie.

After a day of notable observation and collecting, the journey was resumed by a diminutive steamer, and night brought us to the cataracts of Tumatumari, 153 miles from Georgetown, on the Potaro River,



AT THE VERY RIM OF THE KAIETEUR FALLS ONE SEES THE WAY THE EDGE RECEDES (SEE ALSO PLATE XIII)

The sill of rock breaks away in huge blocks so that a step is formed upon which the water dashes into spray before plunging below. The roar of the cataract can be heard for many miles. In the cavern behind the watery curtain, myriad swallows find shelter at night, winging their way home in the late afternoon after the day's flight about the country.

a branch of the Essequibo, where the hills about the river made a welcome and restful change from the low, unbroken levels of the coastward country.

In this region we met the first signs of Indian inhabitants, who are few and scattered and dwell mainly in the further interior. Here and there, on the borders of the river, a clearing had been made, where, among the stumps of the felled trees, the cassava or manioc plants were growing.

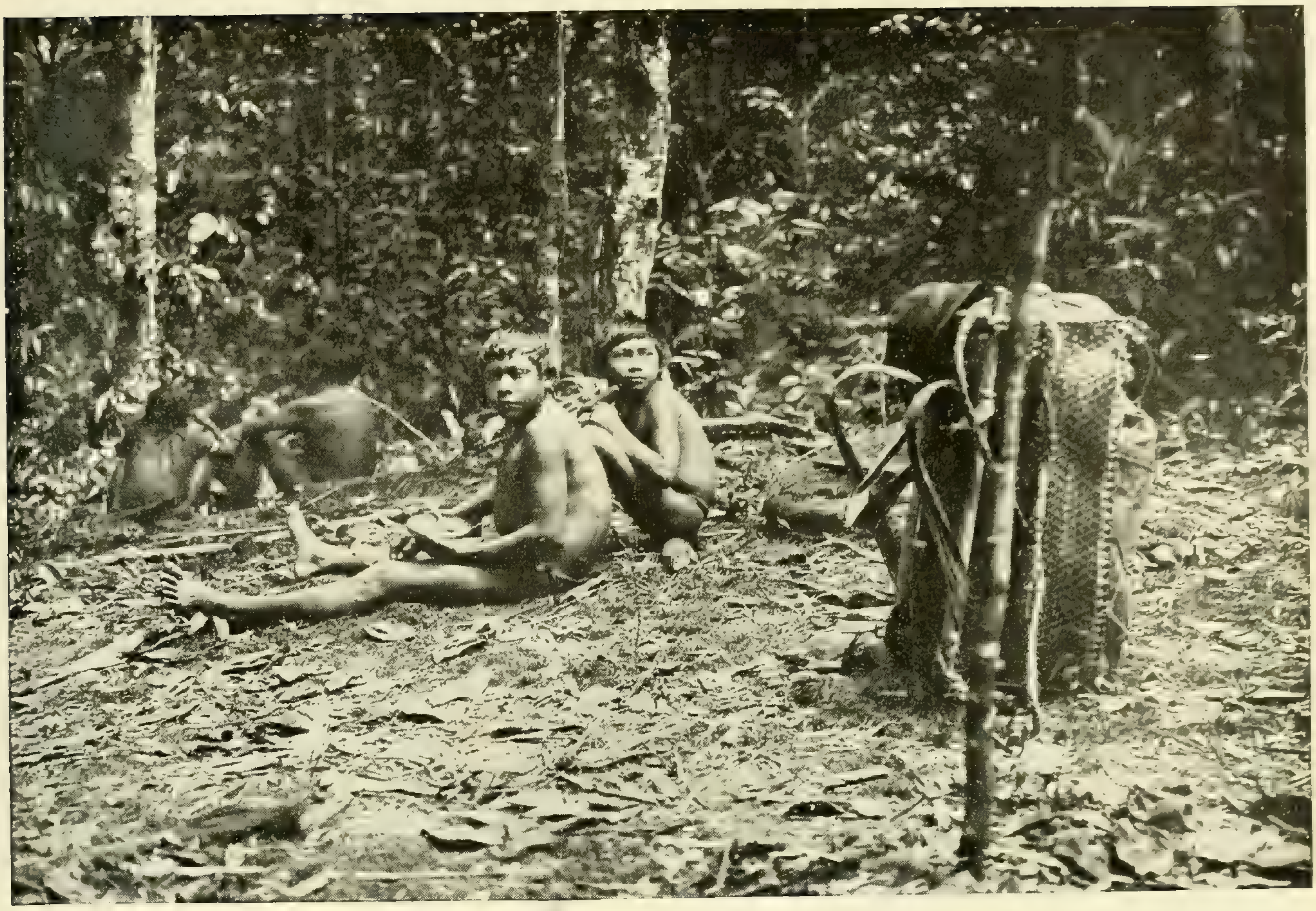
Now the days passed quickly. A still smaller launch conveyed us to Potaro Landing, where a carry, or portage, of seven miles across sandy roads and low-forested hills ended at Kangaruma, on the river above the Pakatuk Rapids.

From this point to Tukeit, in the Kaieteur Gorge, we traveled in heavily built river boats manned by Indians and negroes arrayed along the gunwales. Throughout the long day, with its alternating blistering heat and drenching showers, they wielded their small-sized paddles in a rhythm that was kept by crashing the handles of the paddles upon the boat's edge between successive strokes in the water. The result was a not unmusical effect, which called to memory the booming of the clubs on the hollow logs of distant Fiji.

THE GORGE OF KAIETEUR BEGINS 190 MILES FROM GEORGETOWN

So the carries at Amatuk and Waratuk were reached and passed. Not far beyond the latter, a little more than 190 miles from Georgetown, the river gave up its tortuous course and straightened out in the lower gorge of Kaieteur.

The sides now rose abruptly to more than a thousand feet above the placid water, in which the scene beyond was mirrored with almost photographic faithfulness. Even the white streak of the falls itself, many miles away, was displayed in the inverted picture. However,



A GROUP OF BEARERS AND ONE OF THE NATIVE BASKETS IN WHICH THEY CARRY THEIR BURDENS

The basket is borne upon the back. It is supported by bands of tough bark which pass over the shoulders and across the forehead. This is the noon hour and the toilers are making their midday meal of boiled rice and roasted meat.

many days of labor elapsed before we came to a close acquaintance with Kaieteur and completed the first stage of the memorable journey.

At Tukeit, four miles below the falls, the end of river-boating was reached, all the goods were landed, and two of the three Indians engaged at Kangaruma were dispatched to the further country for additional bearers, who would transport upon their backs the equipment for the journey to Roraima.

The burros of the Andes do not exist here, but if they did they would be unable to replace the human carriers, for only these can successfully traverse the steep places of the rough and narrow mountain trails.

AT THE BRINK OF THE FALLS

Then came the memorable day in mid July when I stood upon the brink of the great falls. Taking a small party of bearers with the provisions and the tarpaulin for a base camp on the plateau above and leaving Dr. Lutz to look after affairs at Tukeit, I made the ascent to the upper level and followed the roar of the waters to the edge of the gorge, from which an unimpeded view of Kaieteur was obtained.

The magnificence and impressiveness of the scene are immeasurably greater than words can convey. Over the red-brown cliffs at the head of the chasm (see Plate XIII) pours a vast sheet of water more than 800 feet in height—a white curtain all the more distinct because of the dark cavern hollowed behind it.

The waters pour down into the depths with a tremendous roar, to be heard for miles around, and the mists rise always in clouds that are striped with rainbow colors so distinct as to impress themselves upon the film of the camera. The breadth is 300 feet and more in time of flood, and the symmetry is wonderful—so perfect, indeed, that the huge scale of the whole scene is incomprehensible.

THE CARIBS, INTO WHOSE TERRITORY THE RORAIMA EXPEDITION PENETRATED, ARE SKILLFUL HUNTERS

Both the bows and arrows of these natives measure six feet and more in length. The clothing of the men consists of an abbreviated loin-cloth. The simple garment of the women is a small apron of white beads—the "lap" or "queyu"—depending from a cord about the waist.

The setting, also, is perfect; no signs of human habitation or human works mar the surroundings; all is wild nature at its best.

The geological details are no less interesting in themselves. The plateau everywhere is surfaced with a dense conglomerate bearing very little soil; so that, despite the heavy rains of the wet season, it affords poor holding ground for vegetation. In effect a rocky savanna, its characteristic plant inhabitants are a giant Bromeliad and an abundant sundew (*Drosera*), besides the grasses of the more favorable areas.

At the brink of the falls, from which marvelous views down the gorge unfold, the rock falls away in great blocks, sometimes leaving a step upon which the waters dash into foam before plunging into the depths below.

In the cavern behind the watery curtain immense flocks of swallows pass the night, winging their way back in the late afternoon from their day's flight about the country.

HOW THE EXPLORER SLEEPS IN THE BUSH

The base camp at Kaieteur was established a mile or so above the falls, near the margin of the upper Potaro River.

It was a simple and characteristic establishment. A rough framework of saplings supports a tarpaulin as a roof, but all sides are left entirely open. The ridge-pole rests at one end in the natural fork of a stout pole, while the other is held by a similar pole against a large tree. The edges of the canvas roof are laid over eaves-poles similarly supported and are held out and tied to slender sticks driven into the ground.

A camp bed is useless or worse; one sleeps in a wide hammock of Indian weave, slung from the ridge-pole. Poisonous snakes are far from uncommon and scorpions several inches long may be picked up from among the leaves and sticks beneath the hammock. The traveler soon forms the habit of shaking out

BORROWING AN INSECT NET, A YOUTHFUL VOLUNTEER AIDE ENDEAVORED TO ASSIST THE AUTHOR IN HIS COLLECTING

Note the little gold cross which the boy wears suspended from a thread about his neck. His parents procured it from a distant mission. Both he and his sister wear the bead and cotton-thread bands around the arm and leg.

his boots every morning to dislodge any of these creatures that may have entered during the night.

A cheese-cloth covering goes over the hammock, making a tent, into which one crawls by a hole in the bottom. The myriad insects and the vampire bats make this obligatory, although the attacks of the latter are not frequent.

Fires are kept going during the night, for rarely do the jaguars and pumas and other large cats—all called "tigers" in the bush—molest a camp with its fires burning.

A few days later the Indian messengers returned with eleven others whom they had persuaded to enter my service. They were an interesting and picturesque group, strong and well formed, for the hunting had been good and their cassava fields were flourishing.

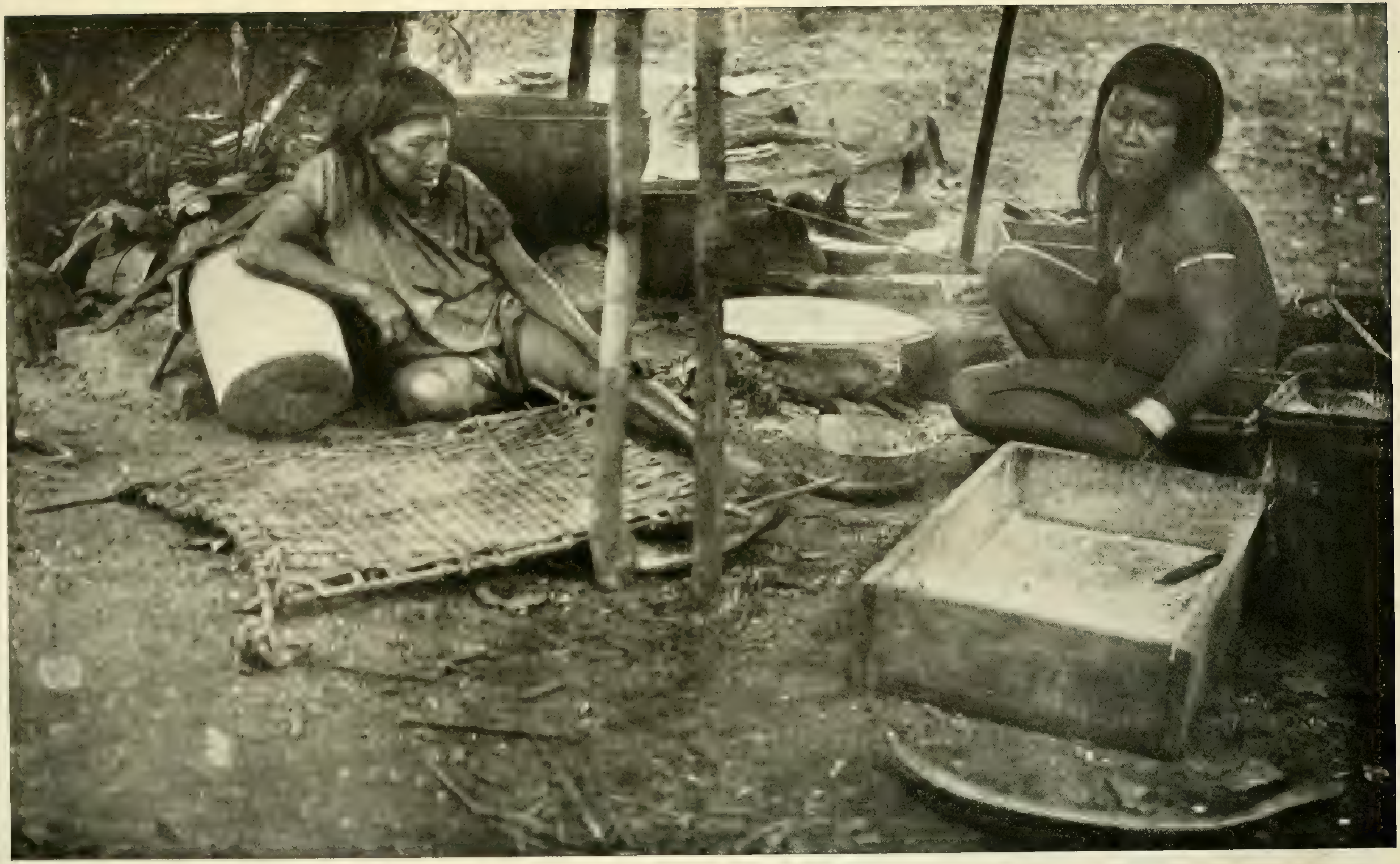
The men wore abbreviated loin-cloths, and the simple garment of the one elderly woman was the small apron of white beads—the "lap," or "queyu"—depending from a cord about the waist. They were all Caribs and members of the Patamona division of the Ackawoi tribe, into whose ancient territory we had penetrated.

THE NATIVES WITHHOLD THEIR REAL NAMES FROM STRANGERS

At first the newcomers were very shy, but ere long cordial relations had been established and they proved to be children, like all primitive peoples.

Each bore a "mission name," such as Joseph, or Albert, and even Chamberlain, given by a missionary or trader. The native name is not imparted to the traveler until a real friendship is formed, for they believe that knowledge of this enables an ill-wisher to do them harm by sorcery.

They cheerfully began the transport of our equipment from Tukeit to the higher camp, but so steep was the trail, scarcely five miles in length, that only one load could be brought up in a day. The bur-



AN INDIAN WOMAN AND HER DAUGHTER BAKING CAKES OF CASSAVA

These broad, flat cakes are made from the starchy pulp of the manioc plant washed free of the poisonous juices of the fresh material. The interior equipment of the Indian huts in British Guiana is extremely primitive.

den was carried in the typical basket borne upon the back and supported by bands of tough bark which pass over the shoulders and across the forehead.

The carriers would reach the camp about noon and receive their stipulated ration sitting about the little fire, over which they boiled the rice and roasted the meat. Then, chatting and laughing, they would depart to Tukeit, to repeat the climb on the morrow.

One memorable night I had sent every one down and remained alone. It was this particular time that was chosen by a jaguar to stalk and rush a tapir, and both of the animals plunged through the forest a few yards from my hammock. Of course, one always sleeps with firearms within reach, for many things may befall in those wilds.

With the last of the loads, a week later, Dr. Lutz came up and final preparations were made for further progress. Long before this the enforced decision had been made to leave my colleague here and to venture on without him.

Heavy rains and vexatious delays had reduced the available time, so that the remainder of the projected trip needed to be made in rapid order, if at all; and ordinarily two white men cannot travel as fast as one, because the doubled chances of illness must be taken into account.

So the goods were put aboard the wooden punt, which my Indians had brought down from an abandoned plantation up the river, as well as on the wooden dug-outs, or "corials," and the still more primitive "wood-skins." The last named are merely lengths of bark from a large forest tree, which have the ends brought up by cross-sticks, so as to give a freeboard of three or four inches; yet a hundred pounds of freight and two Indians can be supported by such a frail craft.

Waving farewells to Dr. Lutz, as he stood on the bank with the Indian man and two boys left with him, our little flotilla passed around a bend of the river toward the unknown experiences of the future.

High forests came down to the very edge of the water, and the trees were so festooned with vines or "lianas" as to constitute a veritable wall, which reechoed the crash of the paddles on the gunwales of the boats, as from a cliff of rock.

Thirty miles of hard paddling against the swollen current of the upper Potaro River brought us, after three days, to Chenapowu, a region of widely scattered Indian settlements consisting of one or two huts at the most.

At Chenapowu began the long walk, for the projected route to Roraima trended due west, at right angles to the smaller streams of Guiana and the larger northern tributaries of the Amazon.

More than a hundred miles through almost trackless country lay between us and the mountain, and although the distance itself was not long, yet the difficulties to be met rendered it far greater in experience.

In preparation for the long march the equipment was slightly reduced in bulk and the bearers were increased to twenty-five, and soon we filed off into the heavy forests that intervened between Chenapowu and the Brazilian border.

STUMBLING THROUGH THE JUNGLE

It is impossible adequately to describe the arduous journeys of the next five days. Every day, about the time of starting from the temporary camp of the night, the sky clouded and the rain poured down on the dense tree-tops, which formed a veritable canopy to collect the waters and to pour them in streams upon the stumbling travelers beneath.

In the deep gloom the feet caught on the interlaced roots of the trees, which, unable to enter the hard ground, ramified like traps under the thick wet cover of fallen leaves.

The eye searched the ground for the little deadly labarria and the "bushmaster" (a worthy rival of the king cobra in strength and venom), which so closely resemble in coloration the dark-blotched earth that the closest scrutiny of the line of travel must be incessantly kept.

Up steep slopes of 500 feet or more, clinging to the bushes, and down gullies, where the swollen streams must be forded waist and shoulder deep, day after day, the human wayfarers struggled on to-

EMERGING UPON THE GRASSY SAVANNAS ON THE BORDER OF BRAZIL, AFTER MANY WEARY MILES OF TOIL THROUGH THE GLOOM OF TROPICAL FORESTS

The native porters are able to travel much faster over these rolling plains than in the bush. At the first light of day fires are kindled for the early meal, the loads are apportioned among the bearers, and brisk progress is made during the coolness of the dawn.

ward the settlement of Saveritik, near the Chimepir Creek, at the border.

On one of these days, after seven hours of hard work, progress of only five miles had been made.

But it was the psychological effect of the whole combination of circumstances—fatigue, wet clothing and body, and the strain of the senses—that seemed to me most trying. The jungles of the tropics were no novelty, for I had made several journeys of exploration in the islands of Polynesia, but nowhere else have I experienced that deadened sensation, as though the personality of thought had been completely crushed and the body had become a mere automatic machine.

One comes to understand why the people of the region have a saying to the effect that a person lost in the bush for only a day and subsequently discovered "leaves his mind behind him."

So the camps for the night and the noonday halts were made at the waters of the Tururaparu, Wung, Murepang, Uliparu, and Kopinanang, streams that were crossed at right angles, as they flowed northward into the Potaro or southward from the Kamana Mountain divide. At the Kopinanang, and from that to the Guiana shore of the Ireng River, Indian settlements of one or two huts were found and many interesting incidents befell.

THE CASSAVA CEREMONY OF HOSPITALITY

In one village I participated in the cassava ceremony of hospitality. When a strange party comes to a hut or settlement, the home of the head-man is sought at once, burdens are set down, and the host grunts in alternation to disjointed statements by the newcomer relating to his journey. Then the host becomes the speaker, and the stranger grunts his comments, conveying many shades of meaning by inflections and tones.

Cakes of cassava are ordered out, together with a "buck-pot," or clay bowl filled with pepper infusions; the visitors in turn dip a fragment of bread in the pepper, eat it, and then general conversation is in order. A sure indication of the degree of friendliness is afforded by the promptitude with which the ceremonial is ordered.

At length the head of the Chimepir was reached, and the vision ranged out over the dense canopy of the forest tops to the cloud-filled valley of the Ireng River, a northern branch of the Amazon system, which separates Guiana and Brazil. A day later we reached the three huts of Saveritik, now situated on the river itself.

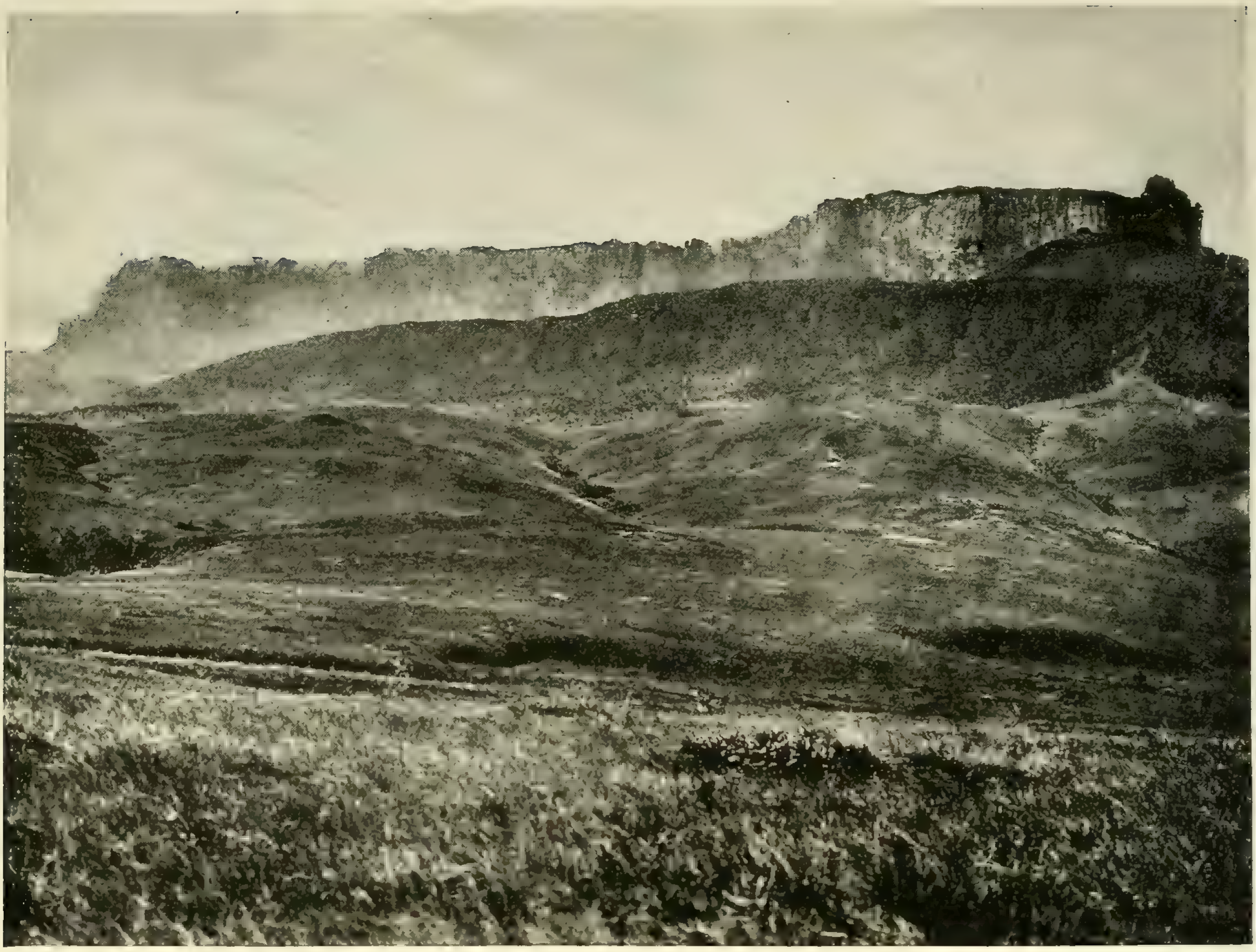
Natives from other places up and down the stream flocked to my camp and seated themselves in rows to observe every act and movement of the stranger in their midst. While I was averse to parting with the "barter,"—beads, powder and shot, and cloth—wishing to conserve the goods for use beyond, they made me small "presents" of food and baskets, for which I was forced to bestow "gifts" in return.

This place remains memorable because here a critical decision had to be made, fortunately without a disastrous outcome. The hard and slow traveling across country had cut down time and supplies to an unsafe degree; not enough of the latter remained to support the party during the journey to Roraima and back to this point, even under the most favorable conditions.

Either I would cross into Brazil, explore the savannas, and return without attempting the journey to the famous mountain, or else, with insufficient food, I would start for Roraima, hoping to obtain some supplies from Indians at some point.

The second alternative was finally chosen. A few bucks were detached, while others were sent back to Chenapowu for some of the food left there, to await our return to Saveritik. Finally, with the bearers reduced to seventeen, the passage of the Ireng was made in very doubtful "corials," and I set foot on the soil of Brazil—the land which possesses so great a charm and lure for the naturalist.

A full half day was required for the toilsome climb of 1,500 feet through the forests covering what is, so to speak, the huge beveled edge of this part of Brazil. Then, at a point midway between Mt. Elidik and Achimatipu, we emerged upon the wide grassy savannas, open and sun-drenched, one sight of which revived and



RORAIMA, THE GREAT FLAT-TOPPED MOUNTAIN NINE MILES LONG AND THREE MILES WIDE, RISES LIKE A VAST BATTLEMENT CONSTRUCTED BY TITANIC NATURE

The southwest face affords the only practicable way of ascent. About one-quarter of the distance from left to right (west to east) an oblique series of ledges makes it possible to reach the summit, a task first accomplished in 1884 by Sir Everard im Thurn. On the east the waters from innumerable silvery falls flow into the rivers of Guiana, southward they enter the branches of the Amazon, while on the southwest they run into the wide-circling tributaries of the Orinoco.

stimulated the mind, which had been so long depressed by the gloom of the forests.

The trees grow only in patches and tongues along the hollows, where for a time the copious rains remain; elsewhere the rolling plains are covered with green grass of somewhat sparse growth save in the gullies, for the old, time-aged gray or reddish soil of this area holds the water for only a brief time.

Travel was faster now. Terrace by terrace the land rose to an altitude of 4,700 feet, and now and again, as at the Karanang and Wailang Rivers, it was necessary to cross the hollows of smaller tributaries of the great Amazonian waterway. At last the high table-land of Roraima was sighted from a high point on the eastern crest of the Cotinga (Kwating) River valley, at a distance which robbed it of its impressiveness when viewed from a nearer place.

THE CARRIERS FEAST ON ANTS AND GRASSHOPPERS

Life upon the savannas differed in many ways from that in the forests. At the first light of day the fires would be kindled for the early meal, the loads would be apportioned to the bearers, and brisk progress would be made for a time in the relative coolness of the dawn in these higher altitudes.

Among the bright flowers of the plains myriads of basket-like spider webs glistened with the dew. Hundreds of the gray dome-nests of termites could be seen from any hillock, with here and there an earthen-colored mound fresh

AT THE EVENING CAMP THE NATIVES SWUNG THEIR HAMMOCKS IN THE SMOKE FROM THE FIRES

This expedient was adopted to drive away the myriads of sand-flies that were a torture during the day.

built by termites of another species. Such a "find" was welcome indeed to the bearers, who tore it open and eagerly devoured the softer-bodied inhabitants as they swarmed out of the broken galleries.

The huge grasshoppers of the plains also were greatly enjoyed by the Indians, although to me their interest was of another kind.

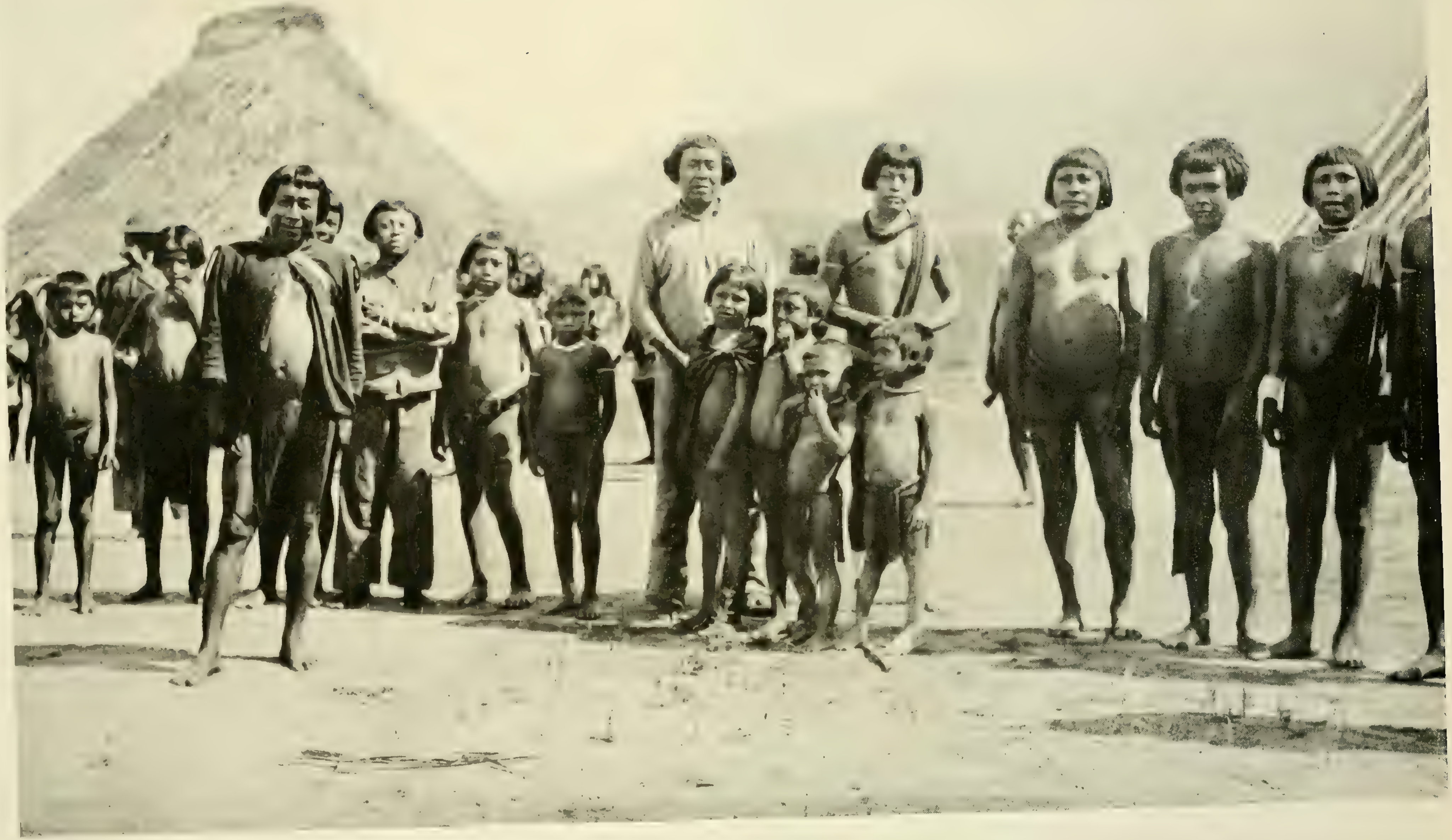
As the day wore on, the heat became intense, and at the noon camp every available shelter was employed as a protection from the direct rays of the sun. Then, too, myriads of minute black flies attacked the human wayfarers, marking each bite with a drop of blood, and their tortures continued until the smoke of the camp fires at dusk rid us of their presence.

An occasional snake was seen, usually a rattlesnake, disturbed by the sticks of the foremost Indians of the single file, continually beating the grass.

In every way—botanically, zoölogically, and geologically—there was the sharpest contrast to the thick forests through which we had previously passed; only in an occasional clump of trees in a hollow or along the borders of a river—a forest in a grassy sea—did the Guiana butterflies and plants disclose themselves.

On the same day of the first sight of Roraima a long march brought us to a place mapped as Parmak, near the Cotinga River, but Parmak had vanished! The hundreds of natives had moved away and only one "banaboo" remained, whose younger inhabitants darted into the near-by woods on seeing a white man for the first time.

We had hoped for a comfortable night's rest in hammocks slung under roofs of thatch, but instead we were forced to make a camp by torchlight in the dripping forest, utterly tired out from the fifteen miles of travel under the blazing sun.



THE ARECUNAS AT KAMAIWA-WONG

The harvest had been good, and their hunting had been successfully accomplished with bows and arrows and blow-guns. Yet with the failure of the rains shortly after this photograph was made, severe famine resulted and half of the tribe perished.

Apprehension also added its weight, for the remaining provisions were sufficient only to last us back to Saveritik, should we turn back, and no food was obtainable here. To go forward meant we must continue westward until supplies were found.

But the morrow brought its cheer with the discovery of a volunteer guide who knew a way to Roraima shorter by two days than the route known to geographers.

With fresh courage we crossed the Cotinga, a river of great beauty, as it winds southward through the plains on its way to the Branco, and worked our way up a wide lateral valley toward Mount Weitipu, which stands like a sentinel guarding the approach to Roraima from the southeast.

RORAIMA IS REACHED

At last, in mid August, I reached Roraima. From the camp on Erkui Creek, on the west flank of Weitipu, we proceeded to the Arabopo River, an upper branch belonging to the Orinoco system, climbed over an intervening plateau, 4,500 feet in altitude, and halted on its farther border to gaze on the impressive scene before us. Fifteen hundred feet below spread a wide, undulating plain that rolled up to the forested zone at the foot of Roraima, only a few miles distant.

The flat-topped mountain, which is nine miles long and three miles wide, presented us its southern point and rose like a vast battlement constructed by titanic nature. Upon its sheer walls 2,000 feet without a break, that rise to a height of 8,600 feet, gleamed silvery threads of waterfalls that form the beginnings of streams entering the ocean at far-distant points.

On the east the waters flow into the rivers of Guiana, southward they enter the branches of the Amazon, while on the southwest they run into the wide-circling tributaries of the Orinoco system. Here, on Roraima, these widely diverging streams have their common origin.

With our end almost attained, we climbed down the valley and proceeded toward the village of Kamaiwa-wong, situated just south of the cleft between Roraima and Kukenaam, a sister mountain which is scarcely less impressive than the more famous height.

Here resided a numerous tribe of Arecuna natives under the sway of a powerful chief, whose "mission name" was Jeremiah. But two trivial incidents prevented our arrival at the village that night. Had it been otherwise serious trouble might have been encountered, although not until a subsequent time did I understand fully the critical nature of our position.

One circumstance was the hunt of a huge ant-bear and the delay occasioned by its killing. The bearers at the head of the line halted and pointed out the animal, as it shambled along from hillock to hillock.

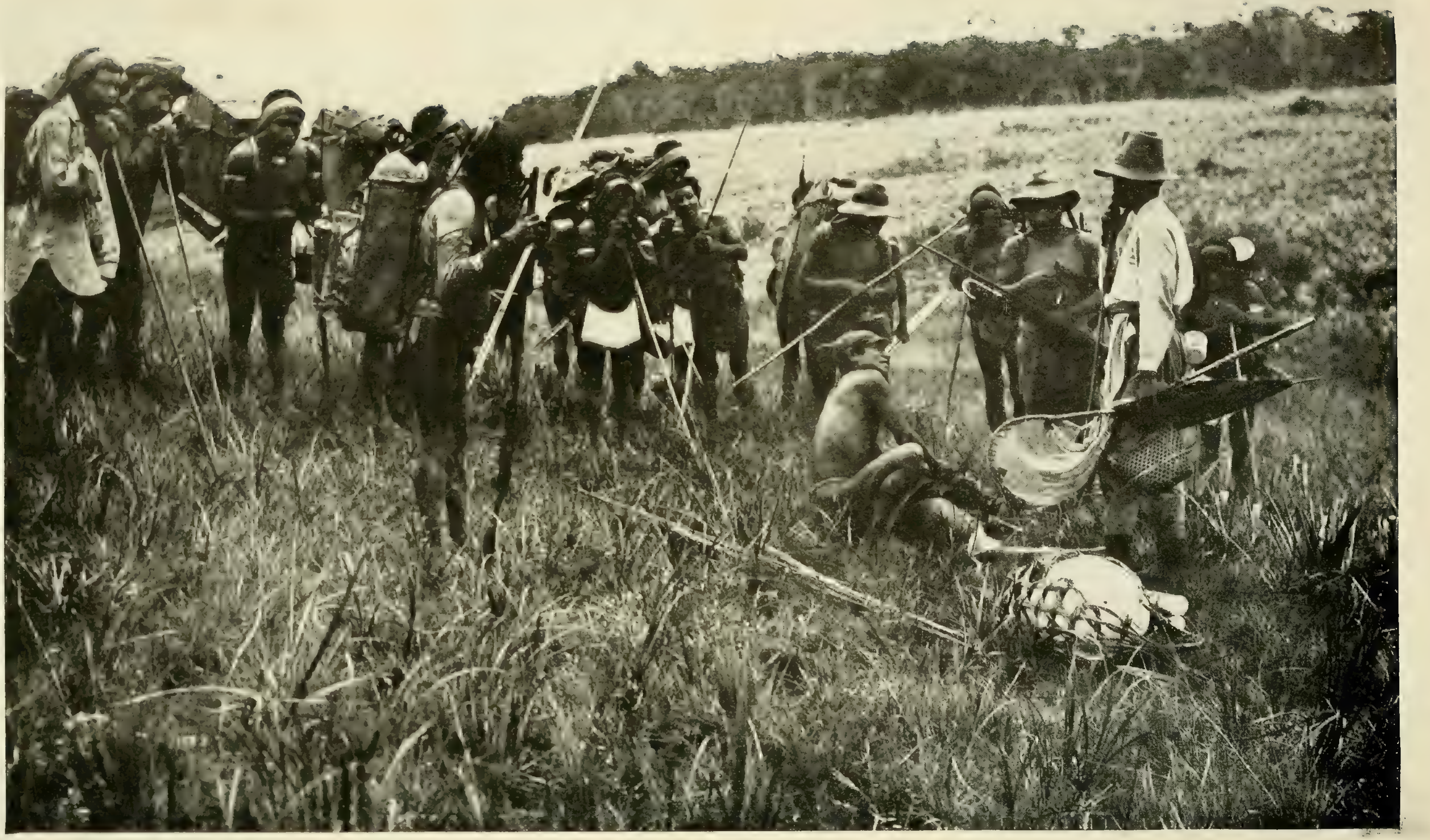
As I crept up, gun in hand, the animal continued to feed, ignorant of my presence; whereupon I slipped the gun back into its holster and took out my camera. Setting it at twenty-five feet, I approached near enough to secure a much-prized photograph before the creature took alarm and bolted. It was run down and shot, enabling us to obtain an exact measurement of its length, which was six feet and six inches.

This animal (*Myrmecophaga jubata*) is extraordinarily interesting, as it feeds exclusively upon ants. It is covered with coarse, wiry hair of dull fawn and black, while its tail bears a heavy bush of longer growth; so that at rest the animal resembles a heap of dead grass. The head is slender and tapers gradually to a small end, where the diminutive mouth opens to allow a long, sticky tongue to be protruded.

The creature shambles along, from one to another of the myriads of ant-nests scattered over the savanna, tearing open the earthy galleries with the huge recurved claws of the forefeet. When the ants run out they adhere to the snaky tongue, which darts here and there, collecting a mouthful of the small creatures, which must be eaten in enormous numbers in order to nourish the great bulk of the ant-eater.

The second chance factor was a drenching downpour that overtook us when a mile short of Kamaiwa-wong, and so I decided to camp at once in a patch of forest on the Kauwa Creek, at the very foot of the great mountain.

As the memory of that night returns I



A CHANCE KILL OF A DEER ON THE RETURN TRIP FROM RORAIMA WHEN SUPPLIES WERE LOW

The hunter is tying up the animal to be carried until the night's camp is made. The journey from the base camp at Kaieteur Falls to the great mountain and return was accomplished in four weeks, with only one day's provisions remaining at the end of the trip.

recall the conflict of many diverse emotions. Satisfied to have reached the end in view, with the "biological traverse" completed, yet I was somewhat apprehensive of what might happen before the return journey could be safely ended.

The Indian bearers had become greatly weakened by the ardors of the trip and also through the effects of the severe influenza, known as the "Brazil cold," which every newcomer contracts. They could carry only the most needful things, including the new supplies of food that we expected to obtain from the Arecunas of Kamaiwa-wong on the morrow. The return must be made without any untoward hindrances or setbacks, if we were to reach home in safety. Other dangers were fortunately unknown to me at the time.

With bitter disappointment, having considered all the elements in the situation, I determined to forego the attempt to reach the summit of Roraima, and to turn back after a single day of biological study and association with the Indians of the locality. Sir Everard im Thurn and others had described the top of the mountain, and my own personal desire to view the scene from the crest was less important than the scientific studies for which the journey had been projected. Yet it was a hard decision to make.

The next day was eventful indeed. Some of my bearers had gone to the village on the previous evening and had apprised the chief of my arrival. They also learned that an American missionary had died here some two weeks previously, under circumstances that to them, at least, had seemed suspicious.

Warned by Jeremiah to say nothing to me of that sad event, as he believed that he and his tribe would be blamed by me, nothing was told me of the occurrence. Every injury and death is attributed by these people to "kenaima" work, or sorcery, and they believed that the white man's death would be laid to them, although from what was learned subsequently a tribe to the north was perhaps more accountable, if, indeed, the unfortunate man's death was due to other than natural causes.

When, with four or five of my bearers, I approached the village in the early morning, no one stood forth to greet me. The Arecunas, clustered about their huts, stolidly awaited events. I asked for Jeremiah's house, but my interpreter said, "Me no sabe"—in effect a refusal to tell me.

I singled out the largest "banaboo" and approached it; whereupon the old man emerged with his sons and stood silently before us. His failure to order the cassava ceremony of welcome seemed strange and, at the time, unintelligible. But the situation had to be met; association elsewhere with primitive peoples had taught me that they are all children of a larger growth, to be humored as such.

First, I shook hands with all the natives, now standing in a great half-circle, and, as if by inadvertence, a second round was begun, which amused them to a degree; but still the cassava was not forthcoming, and something more was needful.

A DANCE SAVES THE DAY

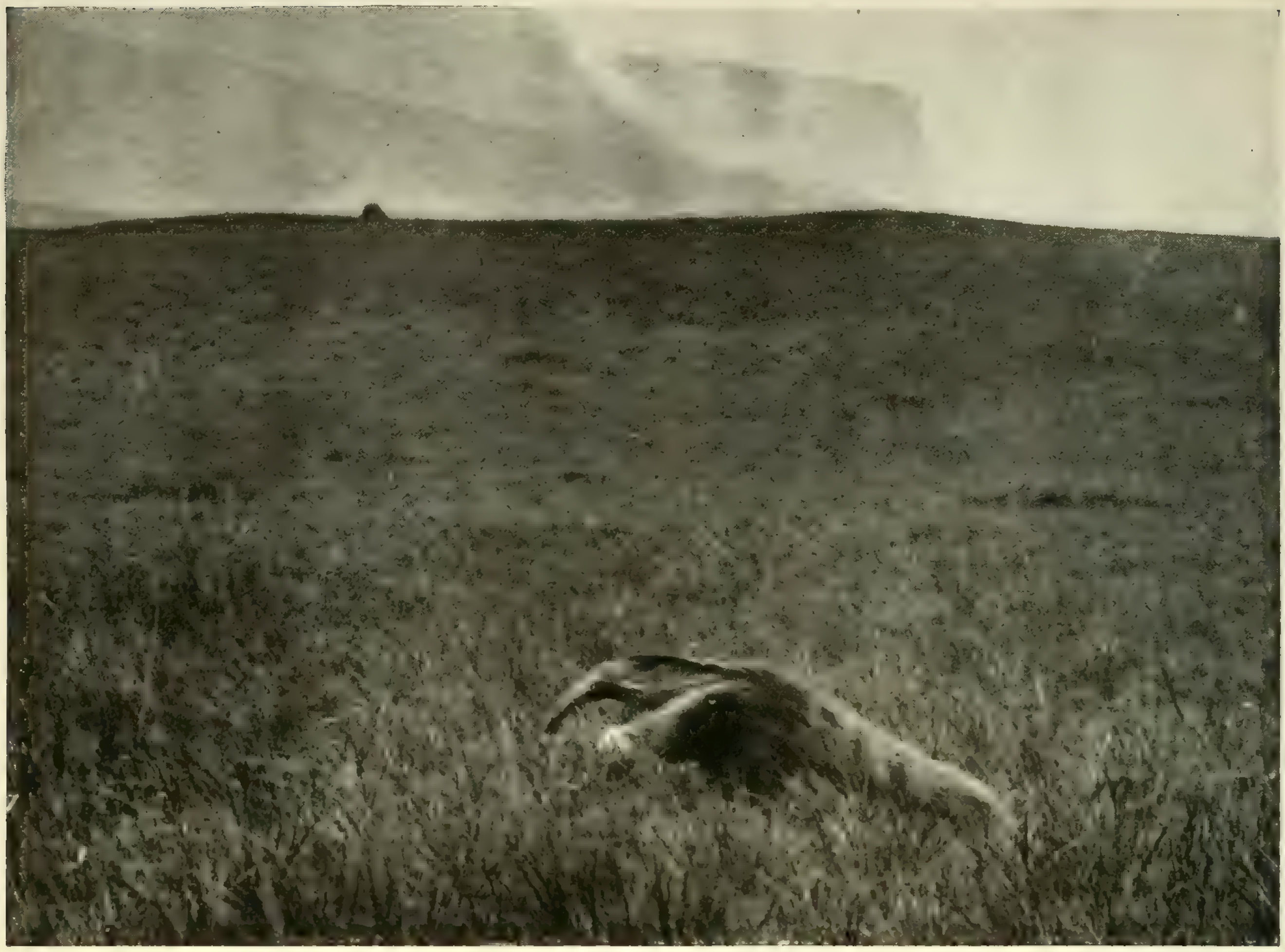
By some process of thought, it occurred to me to dance a few steps of the simple "paiwari" dance of their carouses, which I had learned from the Guiana bucks.

The sight of the bearded, spectacled, and khaki-clad stranger solemnly performing in such a manner was too much for their sense of humor. Soon all were laughing and chatting. Jeremiah unbent to a degree, the cassava was ordered out, and all was well.

The remainder of the morning passed off without any really untoward incident. Here some fresh supplies of cassava bread were secured for our return journey, and here also I bartered powder and shot, fish-hooks and pins and cloth for specimens of their basketry, bows and arrows, and blow-guns, which the people used with tiny arrows poisoned with the deadly curare.

Many of the natives trooped back to my camp to see what the traveler might have for which they could trade.

During the days that followed the panorama of the upward march unrolled before us in reverse order. One night an Arecuna of Kamaiwa-wong became extremely ill—why I do not know, unless he had been meddling with my cyanide



ON THE OPEN PLAINS, WITH THE GREAT BULK OF RORAIMA IN THE DISTANCE, AN ANT-BEAR WAS SIGHTED

By creeping up silently a photograph was secured at a distance of 25 feet, before the animal took alarm and bolted. It was killed and proved to be six feet six inches in length (see text, page 241).

jars—and the word passed around that I was compassing his death by "kenaima"-work, in reprisal for the missionary's death; and in this judgment my own bucks acquiesced.

Fortunately—for me—the victim did not die until after we had broken camp and were upon our way the next morning.

At Parmak also a somewhat critical incident occurred, when Chief David and a dozen of his tribe, who had heard of my presence in the neighborhood, intercepted us for the purpose of bartering.

Owing to the weakness of the bearers, it seemed unwise to add another pound to their burdens, and I declined to trade. David became enraged and handled his knife so ominously that I was quick to bestow "gifts" upon him and his crew.

Food supplies were dangerously low, and the chance kill of a deer was an incident that put us all in better humor.

A last look at the rolling savannas of the Brazilian border, a plunge down the slopes to Guiana, a series of forced marches to Chenapowu, and a day on the upper Potaro brought us within sound of Kaieteur Falls and to the base camp, from which Dr. Lutz had departed shortly before, according to our plans.

Four weeks to a day had elapsed since the start from this place for the further interior, and in this time the trip had been made despite the many obstacles and delays. Only one day's provisions remained.

I reached Georgetown after an absence of eight weeks, and through the courtesy of the Hon. J. J. Nunan an account of the journey and of its general scientific results was given before the Scientific Society of Georgetown — the closing event of a series of varied experiences that will always remain clear and distinct in memory.

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NEPAL: A LITTLE-KNOWN KINGDOM

BY JOHN CLAUDE WHITE

AUTHOR OF "LHASA, THE WORLD'S STRANGEST CAPITAL," "CASTLES IN THE AIR," AND "UNKNOWN BHUTAN"

With Photographs by the Author

AMONG the Himalayan Mountains, of which it owns a fair portion, including Mount Everest, the highest mountain in the world, is the Kingdom of Nepal. Often heard of, it is one of the native Asian States of which least is known.

With the exception of the British Resident and a few European officials who live in the Residency grounds at Khatmandu, the capital, no one is allowed to visit the country without a special permit issued by the Durbar. When the pass or permit has been obtained, visitors are obliged to travel by one particular route and are not allowed to go beyond the Valley of Khatmandu, a tract of country about 15 miles wide by 20 miles long, surrounded by high mountains.

The road into Nepal for its entire length is purposely kept in a bad state of repair by the Durbar and runs over quite unnecessarily difficult country, the idea being that the worse the road the more difficult it would be for attacking troops to enter the country. On one occasion, when coming up from the plains, I returned to Khatmandu by a fairly good road, turning off near Chitlong and entering the valley close to Patan. The Gurkha "escort," which always accompanies Europeans on any journey in Nepal, had temporarily left me, and, seeing the road, I rode in quite easily before the escort discovered I had left Chitlong.

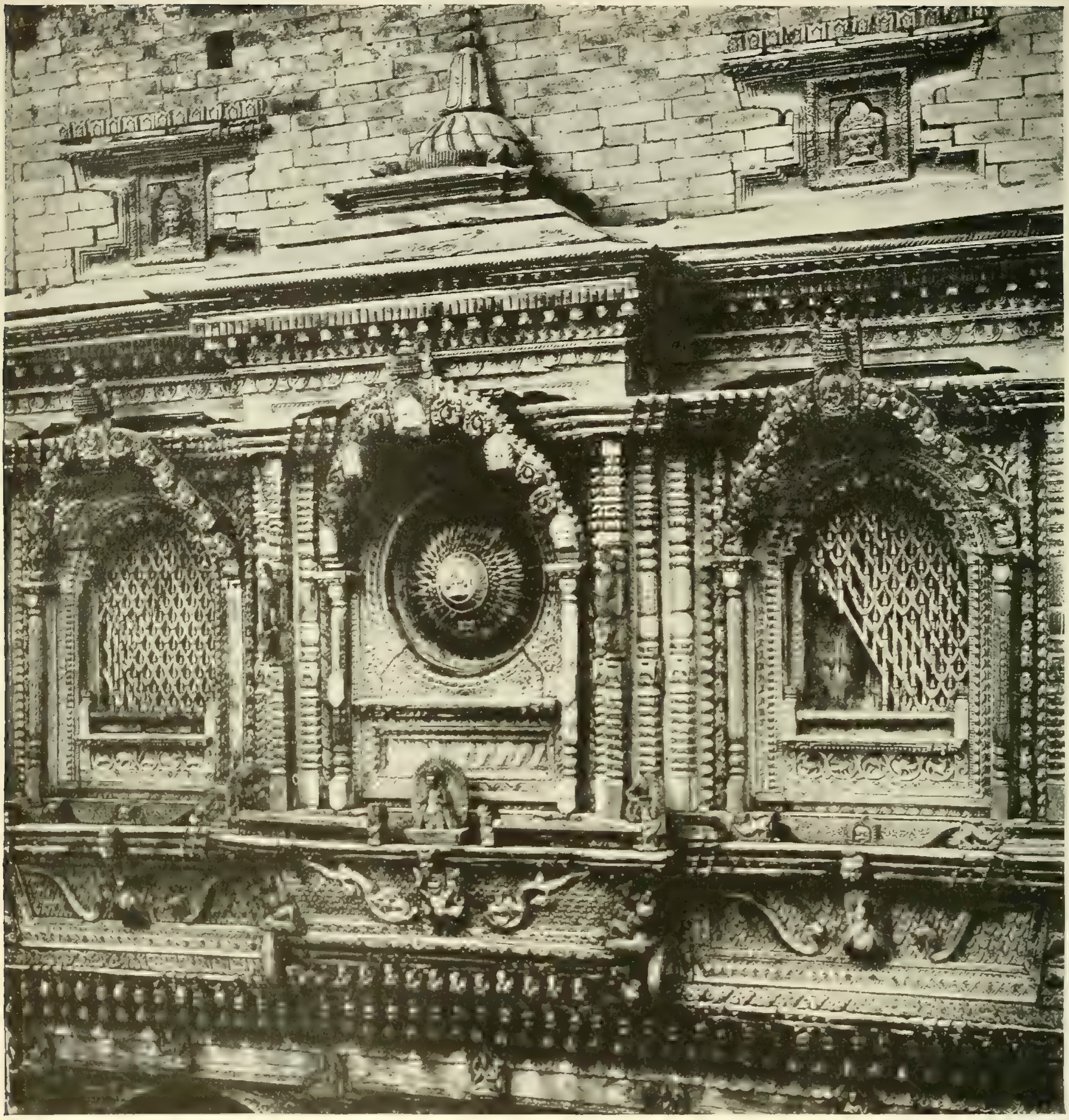
So I found that there was this much good road, at any rate, and I believe there is a good road all the way to the plains of India down the valley of the Baghmutti, but no Europeans are allowed to travel on it.

A TURBULENT, ACTIVE, PROLIFIC PEOPLE

The Nepalese are a prolific people of very great energy and activity, eager to make the most of any opportunity which offers itself. The population is increasing so fast that outlets have to be found, and the trend of emigration now is to follow the foothills along Bhutan and into Assam.

They make good settlers, though somewhat turbulent, bring their manners and customs and religion with them, and do not intermarry with the people of the countries in which they settle. They require a very firm hand to keep them in order in the lands of their adoption. It is quite within the bounds of possibility that, in the near future, from sheer force of numbers, they will become the dominating race in Bhutan, the Bhutanese being few in number and a race which apparently is on the wane.

The Nepalese are a fighting people, have an excellent army and organization, and are fond of show, both in military display and in their religious festivals. The latter are very numerous and in fact seem to be interminable. The women take a prominent part in most of them.



WONDERFUL CARVED WINDOW IN TEMPLE OF SWAYAMBU HILL, WHERE THE EYE ALMOST TIRES OF THE INTRICATE DESIGN

To the casual observer Newar architecture often may seem over-elaborate, tedious, needlessly ornate. To the student it is as expressive of this oldest Nepal civilization as a Roman arch or a Greek temple. Every iota of the complicated design has a meaning—generally a religious significance. Its very intricacy is expressive of a people of many races, whose tongues today are as those of ancient Babel.

Some of the semi-military pageants end in the massacre of hundreds of buffaloes and indescribable scenes of blood and dead animals. In one such ceremony, known as the blessing of the colors, the commander-in-chief dips his hands in a bowl of blood and clasps each banner in turn, thus imprinting on each the mark of bloody hands. The scene is somewhat revolting, but probably has its use in keeping up a martial spirit in the army.

Other processions are very picturesque, flowers, flags, and banners playing a prominent part.

FEMININE FASHIONS IN NEPAL

The Nepalese women wear yards upon yards—sometimes as many as a hundred—of fine muslin plaited to form a huge fan-shaped bunch in front, the back being quite tight. When a lady of rank drives in her barouche she completely fills the carriage with her voluminous skirt of brilliant hue. Above the skirt a vivid little tight-fitting jacket, usually of velvet, is worn; the hair is dressed in a peculiar knot in front, above the forehead, and fastened to one side by an enormous gold plaque with a jeweled center. A heavy gold necklace and gold bangles complete her jewelry. Every imaginable shade is used—purple, pale blue, green, carmine, orange, white, yellow, turquoise, and deep red—and the effect is wonderful.

At the time of state ceremonies the streets are filled with processions of elephants in gorgeous trappings, horses and ponies, brilliant military uniforms, and the usual crowd of good-natured, pleasure-loving people, the whole against the background of the old temples and natural surroundings making a wonderful spectacle.

A YEAR SPENT IN NEPAL

I spent a year in Nepal, where I was sent officially, and have seen the lovely valley in its many changing aspects at different seasons—pale green with growing rice, golden at harvest time, white with blossom in the spring, and brown and bare in the short winter months, but always beautiful. My stay also enabled me to become acquainted to some extent with the manners and customs of the people.

The journey into Nepal is not an easy one, and at the time of my visit the railway only ran as far as Segowlie, whence the journey of sixteen miles to Raxoul was continued in a carriage lent by a hospitable planter at whose house the night was spent.

Here the difficulties began, and the journey as far as Hetowrah, through the Terai and outer hills, was accomplished on horseback or in a palanquin carried by bearers.

At first there is a track through the forest, but as soon as the outer hills are reached the road loses itself in the bed of a stream, up which the bearers pick their way with difficulty over and among great boulders.

At Hetowrah the Rapti River is reached, a pretty mountain stream, and we changed from horses and palanquins to sturdy little hill ponies and dandis, a sort of chair carried by hillmen. From there onward the road or, rather, track passes through lovely scenery and through the villages of Bichiakoh, Nimbuatar to Bimphidi, where there are some magnificent cotton trees, covered in the spring with large, brilliant red flowers, and on over the Sisagarhi Pass to Marku and Chitlong, prosperous little villages, whose inhabitants take their produce to Khatmandu on market days, thinking nothing of the long tramp there and back of over forty miles.

WHERE "BAD ROADS" IS A NATIONAL DOCTRINE

The official road then goes over the very rough track across the Chandragiri Pass and down the almost impassable road on the other side into the Nepal Valley. The last portion of the descent is down a long staircase of roughly placed blocks of stone, and it is marvelous how the laden men and ponies keep their footing on it.

From Chandragiri Pass there is a beautiful view down into the valley, studded with numerous towns and villages and surrounded on all sides by mountains, while to the north tower the everlasting snowy peaks of Gosainthan and Dayabung.

From the foot of the pass an excellent carriage road into the town of Khatmandu runs through the valley teeming with people, towns, palaces, temples, and innumerable shrines. There are miles of such good carriage roads within the valley, mostly constructed in Jung Bahadur's time, and carriages and pairs and occasionally a four-in-hand are constantly used by the palace people.

In this valley, where the shrines alone are said to number more than 2,700, the buildings present an amazing diversity of form, derived from many sources—Egyptian, as shown in the typical form of the windows and doorways finely adapted to local traditions; Persian, Babylonian, Indo-Aryan, and even Nestorian in some of the designs.

It is necessary, before describing any of these, however, to give some account of the religion of this people in order to show its intimate connection with the artistic treatment of the temples, shrines, and even private buildings.

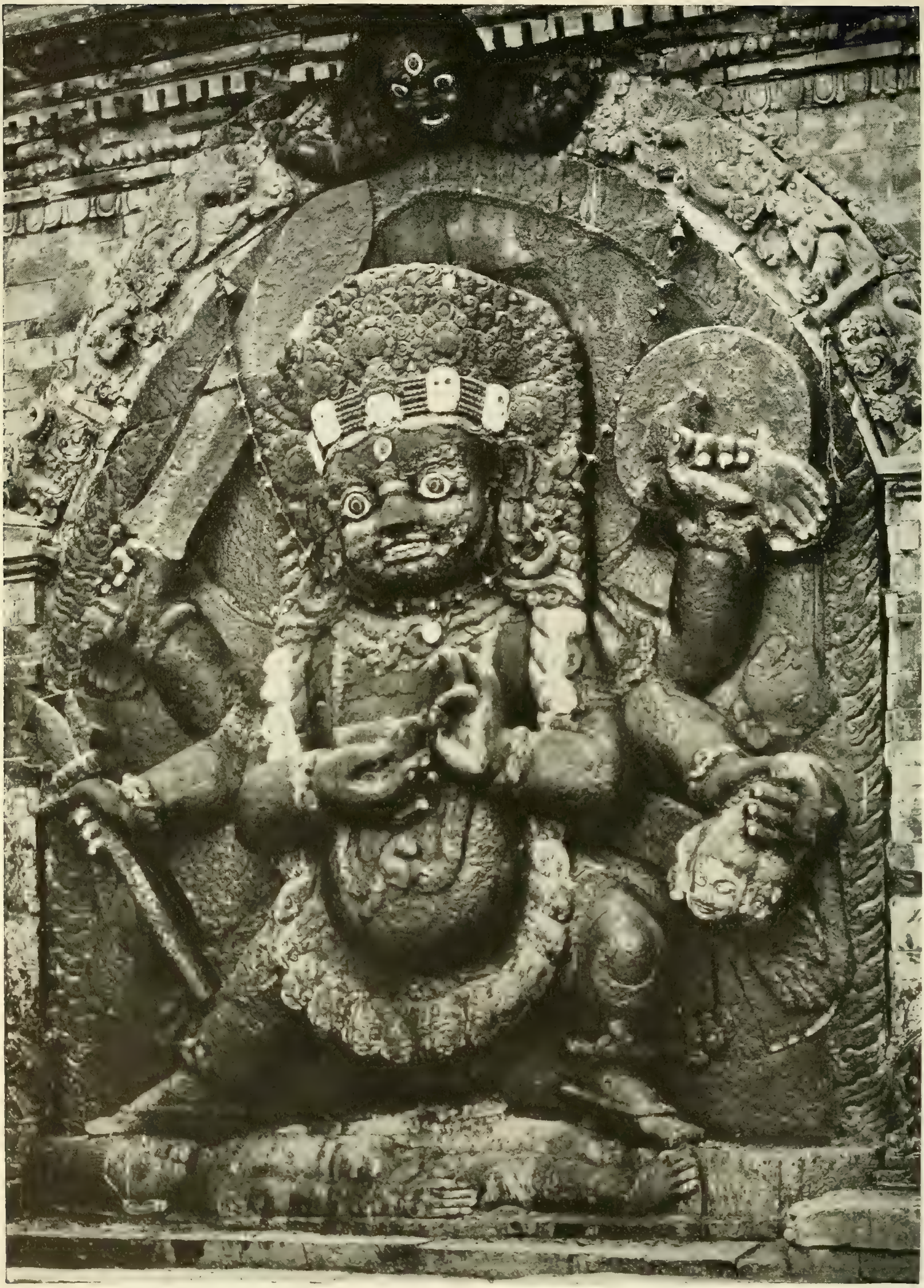
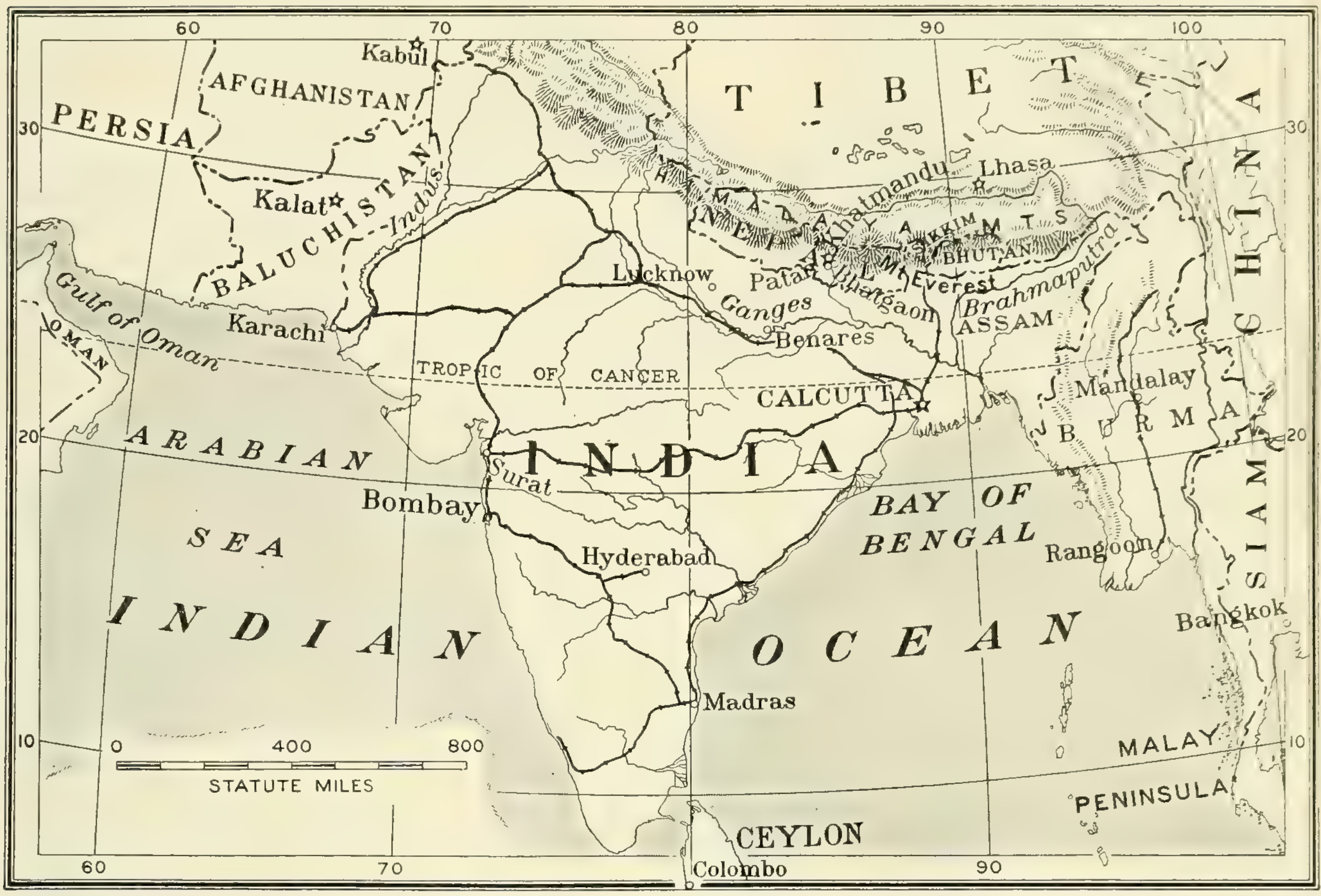


IMAGE OF THE GODDESS KALI IN THE KHATMANDU MARKET-PLACE

A procession of women to honor this image is a feature of the ten-day festival known as the Durga Puja. While the men are engaged in military maneuvers, the women march in what might be mistaken for a visiting firemen's parade to the square, headed by a representative from the royal household, walking under a huge red umbrella. The costumes are bizarre, vivid in coloring, tinsel-bedecked, and the women's faces are liberally daubed with vermilion



Drawn by A. H. Bumstead

MAP SHOWING THE GEOGRAPHICAL RELATION OF NEPAL TO INDIA, BURMA, AND TIBET

The kingdom of Nepal has an area comparable to the combined areas of New York and Connecticut.

The inhabitants of Nepal are collectively known as "Paharias," or "Dwellers in the Hills," and are divided into innumerable castes, of which the principal among the Gurkhas, now the dominant race, are as follows in the order of social precedence:

The following are known as high caste:

1. Brahmans, who eat rice cooked only by members of their own caste. They drink water from the hands of members of castes Nos. 2 to 19.

2. Surmgasi, who eat rice cooked by Brahmans, Thakuris, and Khas only. They drink water from the hands of all castes up to No. 19.

3. Thakuri, who eat rice cooked by Brahmans only. They drink water from hands of all members of all castes up to 19.

4. Khas or Chitsi, who eat rice cooked by Brahmans and Thakuris only and drink water from hands of all members of castes Nos. 2 to 19.

The intermediate castes run from 5 to 19, inclusive, and the lower castes from 20 to 24, inclusive.

The five castes from 20 to 24 do not have Brahmans as priests. Their priests are members of their own castes. They have no dealings of any kind with castes 1 to 20. They must leave the road on the approach of a member of castes Nos. 1 to 19 and call out to give warning of their approach. They may not enter the courtyards of temples.

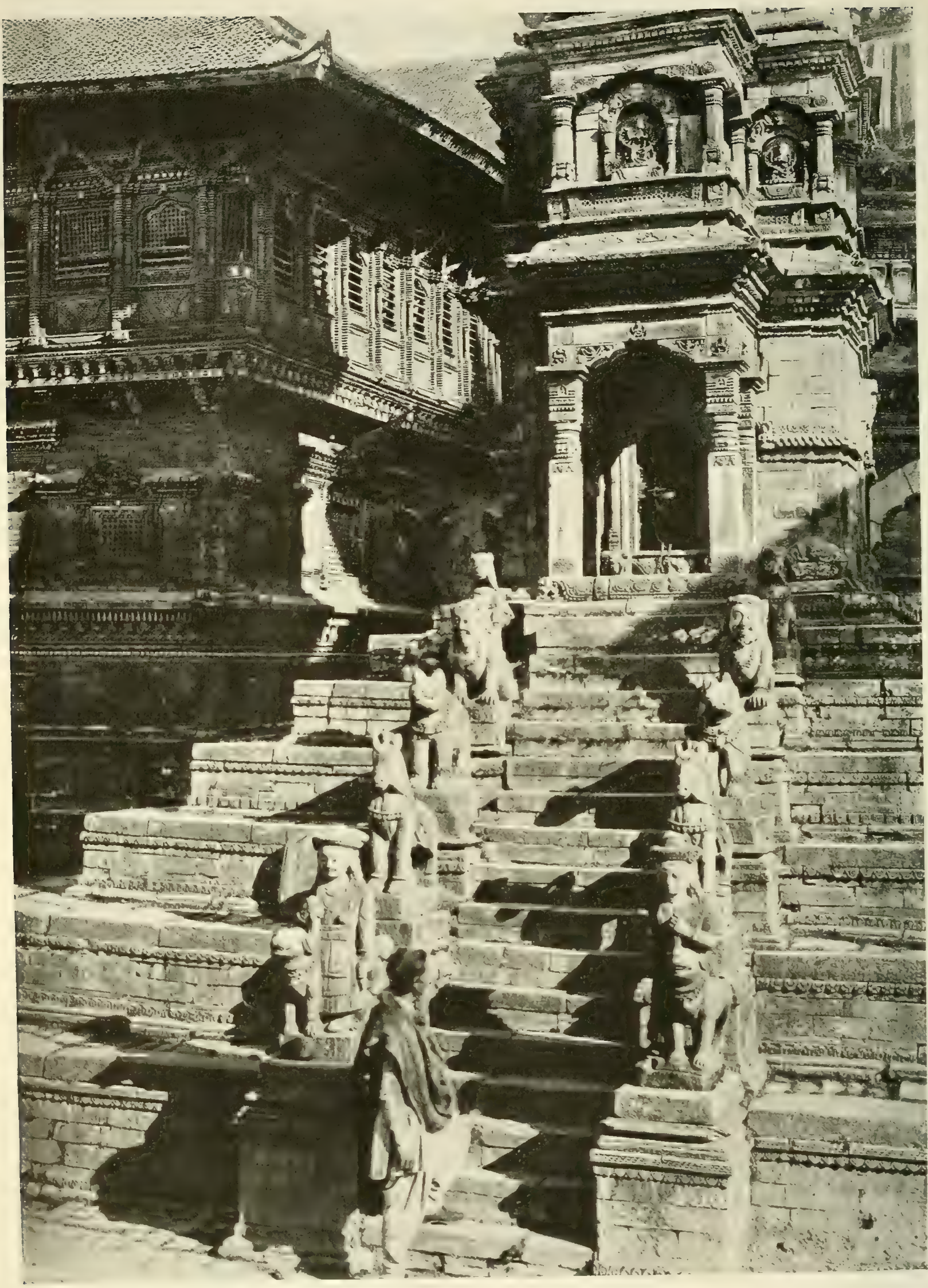
The Bantor, Danuar, and Drai tribes belong to the plains, and no one knows how to classify them in respect to social precedence.

RECRUITING FOR ARMY IS RESTRICTED TO CERTAIN CLASSES

Recruiting for the British and Nepalese armies is carried on only from certain of these castes. In addition to these, there are among the Newars, or conquered people, 41 castes and subcastes.

Then all trades are subdivided into castes—masons, carpenters, potters, etc.

It can be imagined that, with such a



STEPS WITH CARVED FIGURES OF MEN AND ANIMALS, LEADING TO AN ELABORATELY CARVED HOUSE IN BHATGAON

As nature abhors a vacuum, so the Nepalese seem to avoid a smooth surface. Even steps are relieved by carved figures. They excel in wood and metal-work; their stone carving is apt to be more crude. Despite this profusion of decoration, their architecture does not suggest the "gingerbread" type, but rather the delicate intricacy of a Belgian cathedral.

medley of castes, the placing of the people by any outsider is almost, if not quite, an impossibility, and these Hill people are far more strict in their caste rules than any of their so-called coreligionists (Hindus) in the plains. I say "so-called" advisedly, for though the bulk of the people profess the Brahman or Hindu religion, so many of the older forms of Tantric worship and of Buddhism have been retained and have so great a hold on their imagination that it would now be more correct to call them Brahmo-Buddhists.

ANCIENT TANTRIC RITES SHOW IN CARVINGS

With a large substratum of Tantric rites appearing in many of their forms and ceremonies, the same influence is found in the carvings in the temples, some of which are gross, and even immoral, although only in a few instances is this very apparent.

So, to look with understanding at the varied and beautiful buildings, it must be remembered that the workers have derived their inspiration from a large number of sources and have adapted their ideas to their immediate surroundings with marvelous effect.

In the structural features of their architecture and its ornamentation, in their sacred utensils, arms and armor, in their household implements, vestments, jewelry, everything, there is a similarity and special form which runs through all these eastern Himalayan States. The opinion of Sir George Birdwood, the great authority on such matters, is as follows concerning the source:

"It is a matter of some conjecture where this civilization springs from. . . . The traditions of the yellow, or Turanian, races of central Asia point to the west as the place of their genesis, as those of the white, or Aryan, races of Europe, Persia, and India point to the east, the common center from whence all these races took their exodus eastward and westward being somewhere round about the Caspian and Black seas.

"Chinese tradition names Tibet as the cradle of the race, which remained there for some centuries before moving into China. It thus comes that Chinese art has an Accadian source, and the stream of commerce, which has from the remotest antiquity crossed Asia from the Mediterranean to the Yellow Sea, has modified this by its inclusion with that of the Hamites, Greeks, and even Nestorians and that of Cathay.

"Egyptian art, which is to be traced throughout the whole of Turanian Asia, has thus penetrated into the remotest recesses of the Himalayas, and has helped to mold the buildings, both of brick and stone, the regal residences and strongholds, the houses and domestic arts of these remote and shut-in States in the heart of the Himalayas."

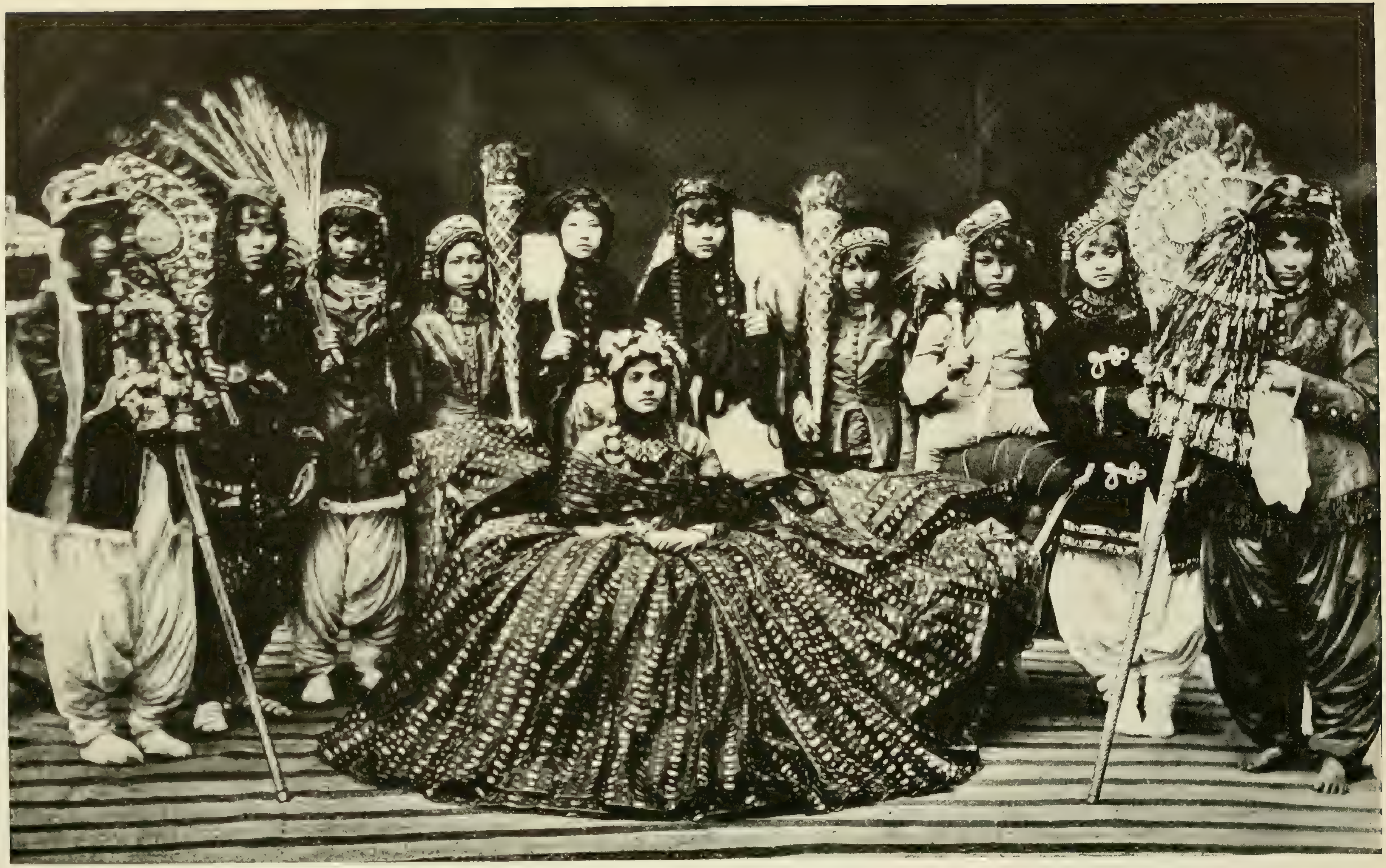
In some ways the arts of these States resemble very closely those of southern India, and this may be accounted for by the fact that they both escaped the Mohammedan invasion. They have retained unbroken to this day their arts as produced before the Mogul conquests of northern India. Tradition has added many a touch of local character born of people living amid lovely surroundings and having an artistic temperament as well as a religion which to them is still a living one, the incidents of which they love to depict magnificently.

AN INGENIOUS METHOD OF FORTIFICATION

The most striking buildings of Nepal's comparatively modern capital, Khatmandu, are, perhaps, those composing the Durbar Palace, with its many quadrangles and pagoda-shaped roofs, full of chambers and courts with small communicating doors easily closed, which enable the inhabitants to defend themselves in case of political disturbances, which are not infrequent. Some of the windows are very fine and there are some striking bits of wood-carving.

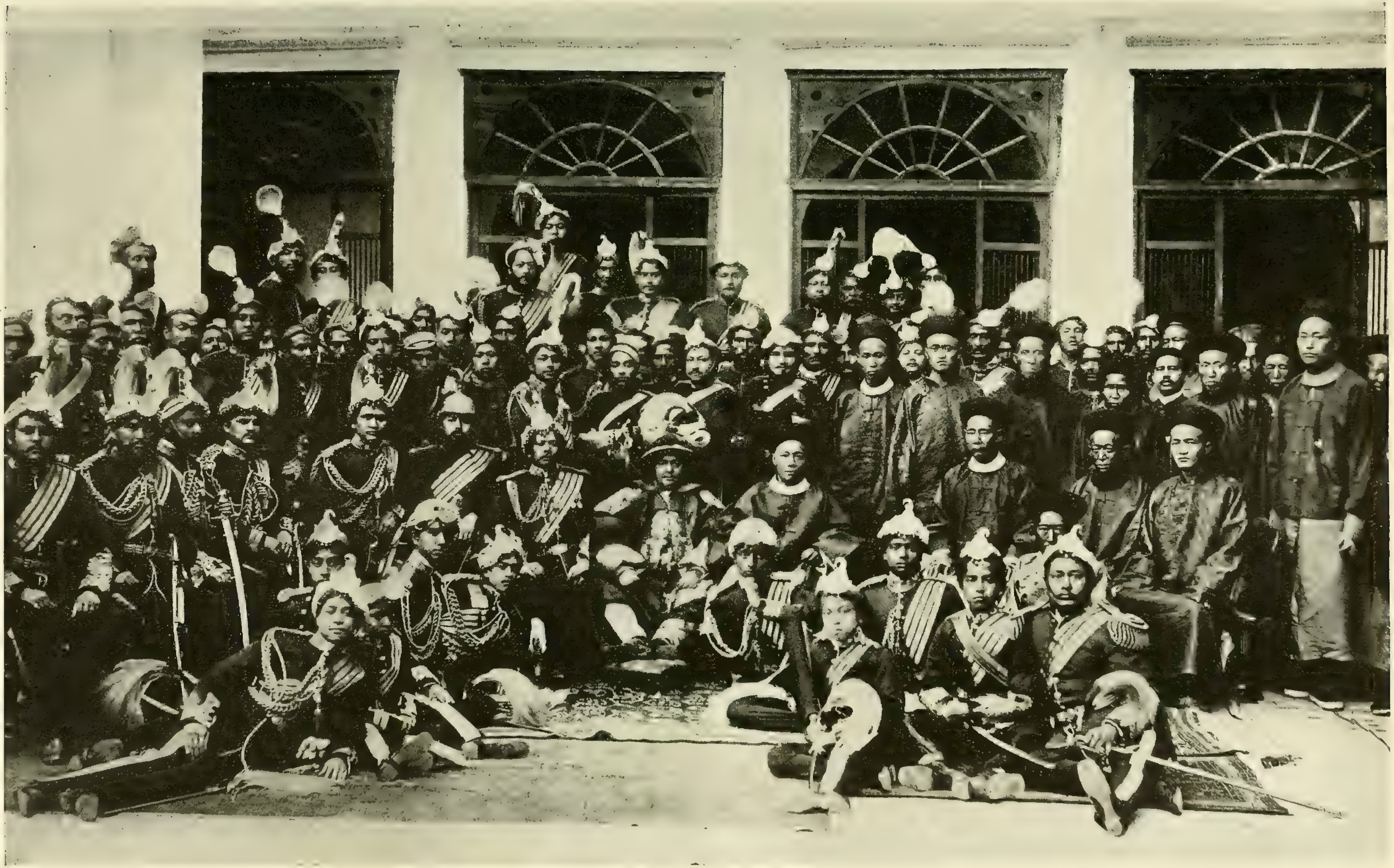
The Royal Temple of the Goddess Taleju, the protectress of the ruling family of Nepal, is the finest in the Durbar group and is kept exclusively for the use of the royal family.

Bim Sens Tower, a building nearly 200 feet in height, stands out above the other buildings in the city. It is merely a tower, with no particular meaning, although the Nepalese have a legend that the great Jung Bahadur leaped on horseback from the top and was uninjured.



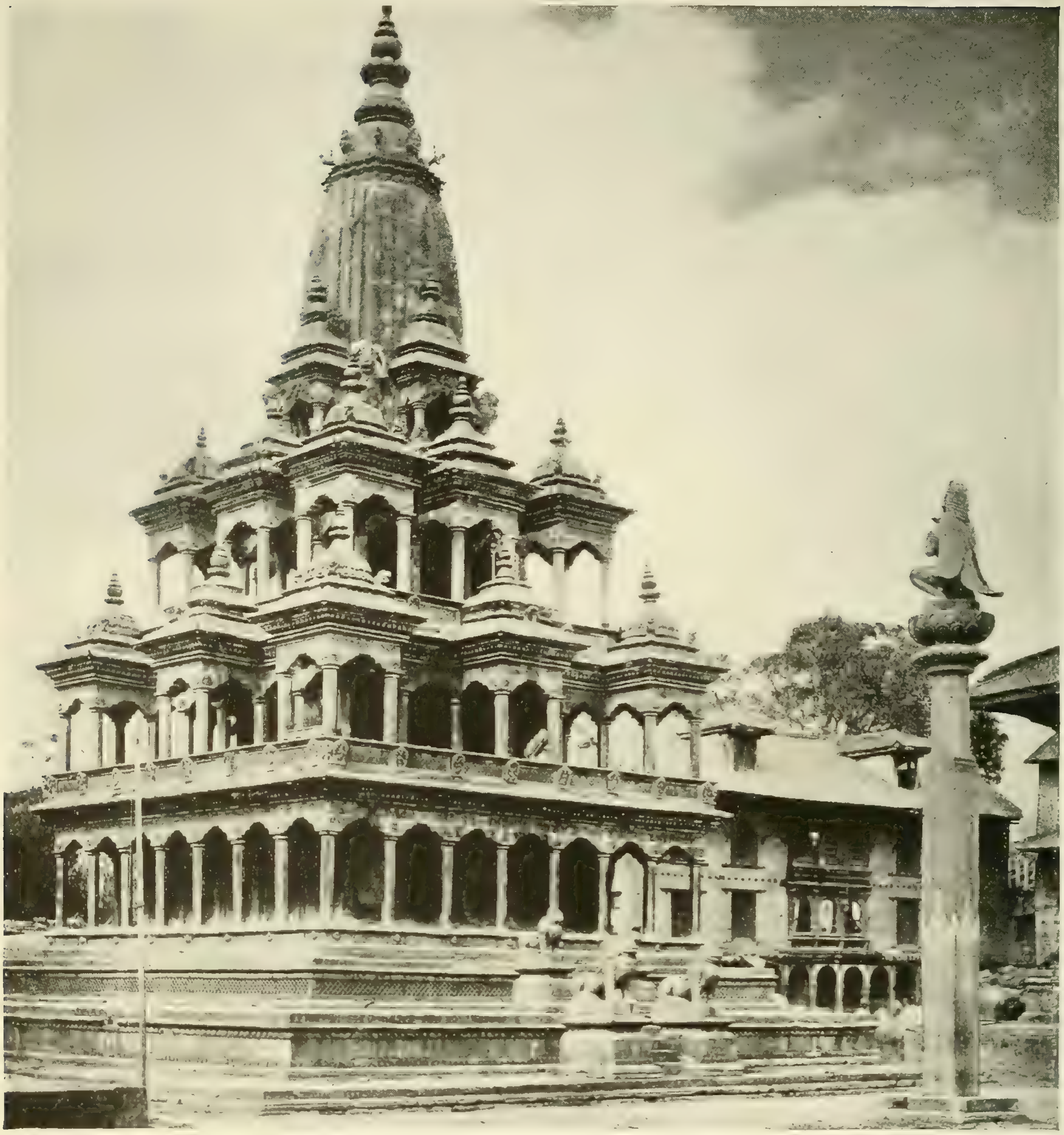
RANI OF NEPAL AND HER LADIES-IN-WAITING

The Hungarian peasant woman requires two dozen or so petticoats for a gala occasion; a belle of Nepal demands balloon-like trousers containing as many yards of material. The women have large brown eyes, and their blackening of the lids adds a suggestion of languor. A tight-fitting, bright-colored jacket is worn above the voluminous trousers. The hair is parted in the back and done in two plaits which hang down in front.



CHINESE EMBASSY AT KHATMANDU: NEPAL, INDIA

Clamped between India and Tibet, it was inevitable that Nepal should clash with them, but surprising that after her disagreements with both she should have maintained a record of amity with two civilizations as different from hers as they are from each other. The Nepalese sought to invade Tibet in 1790, but were driven back to their own borders.

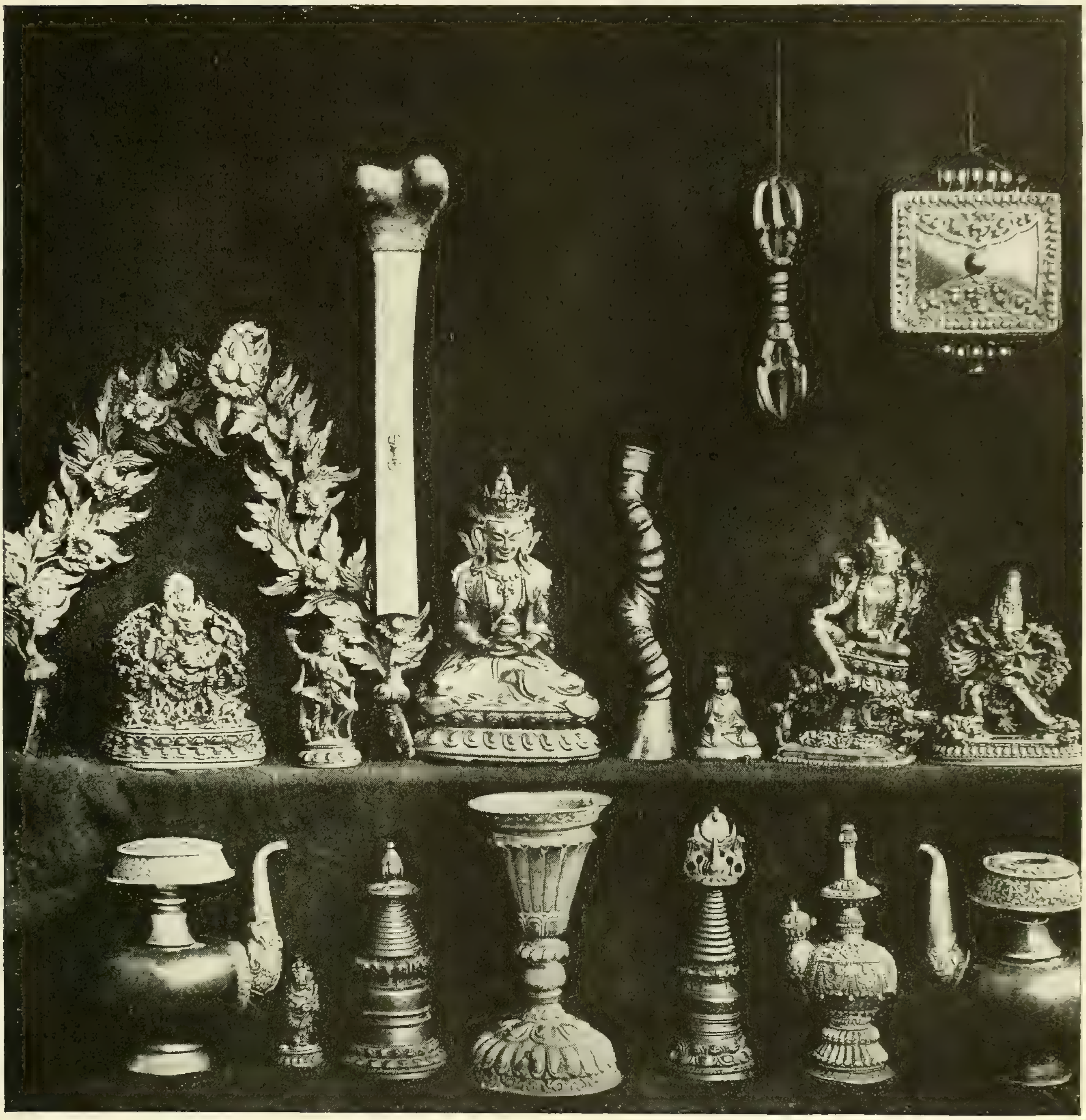


VIEW OF RADHA KRISHNA TEMPLE

Nepal architecture, while distinctive, abounds in traces of earlier civilizations, and its composite sources are being studied by ethnologists (see page 251); but the layman might guess at two recognized influences—that of Egypt in the pyramid-like outlines of such temples as this, and the Chinese origin of the pagoda-like examples, such as the Changu-Narain (see page 258). Tall posts, which suggest totem poles, surmounted by human or animal figures, are generally to be found in the vicinity of shrines and temples.

The modern palaces, although containing valuable collections of various objects of art, are of very little interest externally, with no architectural features of note. It seems a pity that they should have been so built amid the surrounding wealth of picturesque buildings.

The old buildings are built of fine red brick with hair joints, leaving no mortar visible, and the ornamentation is generally of molded bricks of the same red color, although sometimes a terra-cotta tone is used. "Sal," which turns almost black from weathering, is used for woodwork. The roofs are of red corrugated tiles set in mud, with elaborate, grotesque finials. The combination of red brickwork, toned down and weathered by age to a delightful color, with the dark wood used for the overhanging windows and doorways,



SOME OF THE ALTAR UTENSILS FROM THE TALUNG MONASTERY: SIKKIM

Note the thigh-bone trumpet with a "Dorji" carved on it.

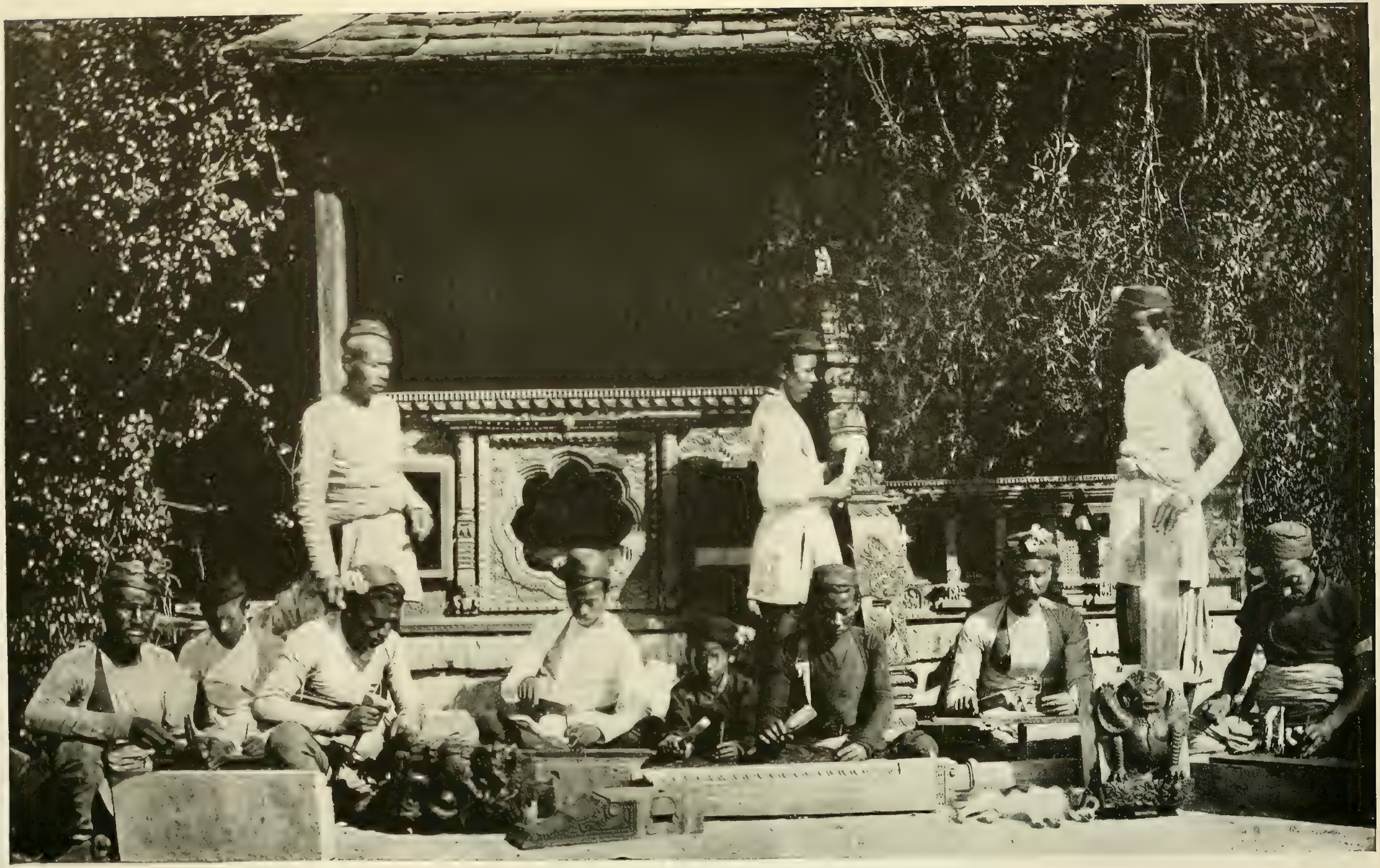
produces a most picturesque effect, relieved from monotony or sombreness here and there with some brilliant coloring and the sparkle and glitter of the brass and copper repoussé work with which most of the doorways are ornamented.

BHATGAON, A CITY OF ARCHITECTURAL JEWELS

Bhatgaon, one of the oldest Newar capitals, lies about seven miles southeast of Khatmandu, and, with its numerous temples, shrines, and statues, all of the greatest architectural value, it is even more interesting than the capital.

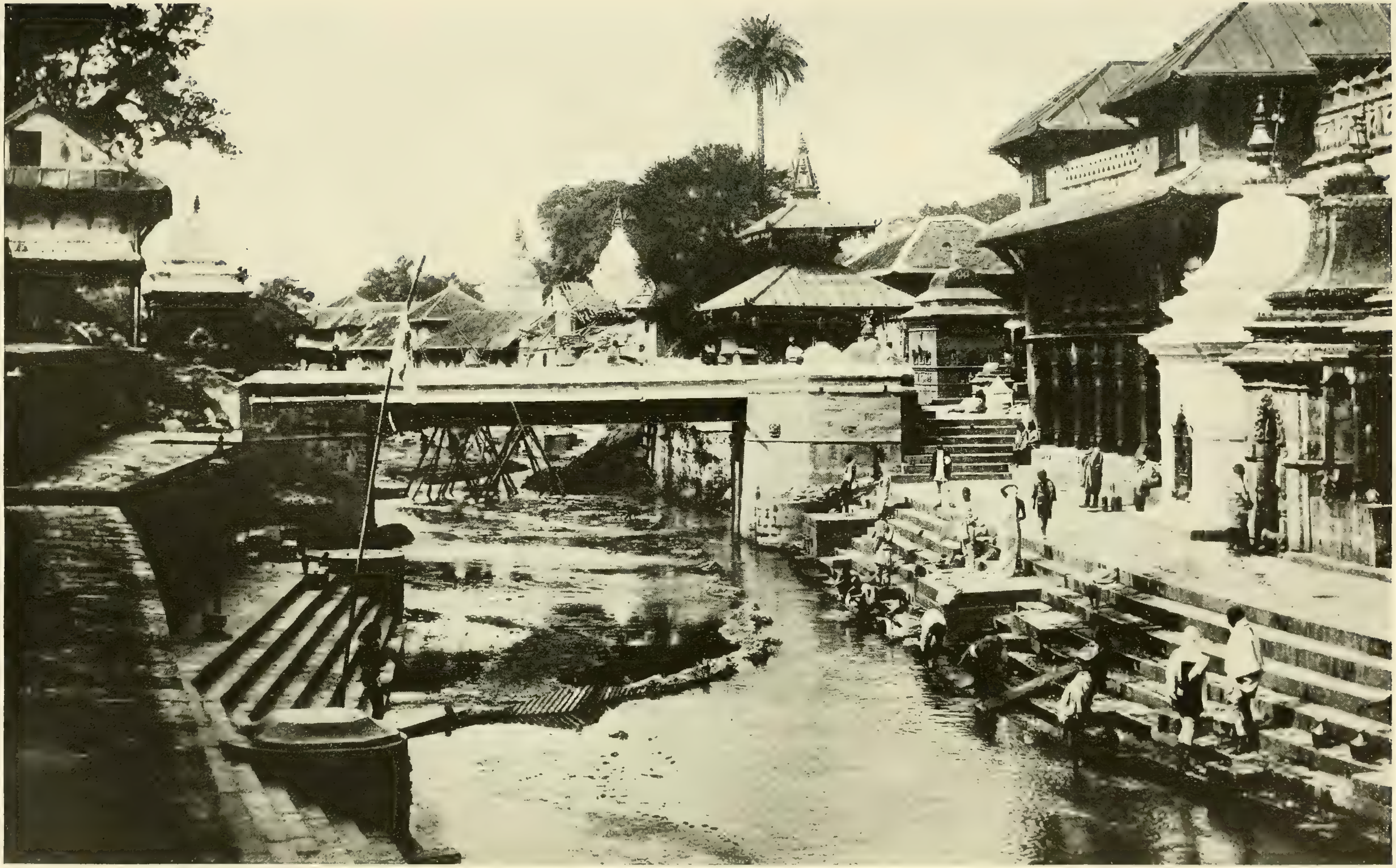
Through winding, crowded, dirty streets, with wooden colonnades overhung by the balconies of old houses, one reaches the central square, on all sides of which buildings have been erected with the most picturesque irregularity, the finest among them being the Durbar Hall, with its magnificent doorway of brick and embossed copper gilt, built in the reign of Bhupatindra Mall. This doorway is one of the finest pieces of work in Nepal and on it is depicted the whole symbolism of the Hindu and Buddhist religions.

Facing the doorway is the statue of Raja Bhupatindra Mall, an extremely



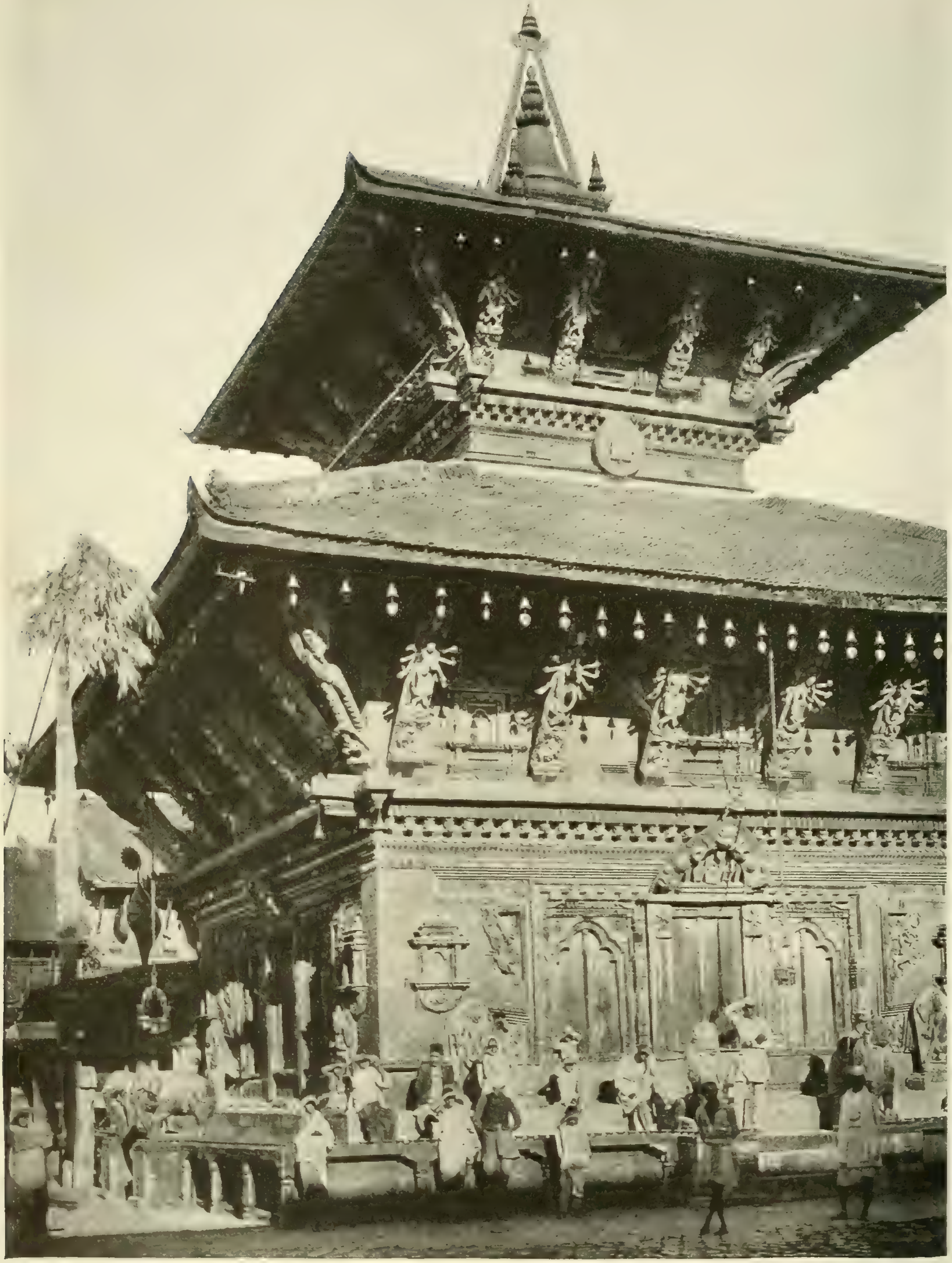
GROUP OF NEPALESE CARVERS

The Nepal wood-carver applies his art principally to the adornment of every available scrap of wood in buildings. If there is room, he usually employs a mythological character as the center of his design. The wood he prefers is "sal," a variety which turns black with weathering.



BATHERS IN THE SACRED RIVER

Grim at times is the Baghmutti, with the groans of the dying, brought many miles for their final penance, and lit with the funeral pyres of the dead, who are cremated on its banks. But the usual morning scene is more suggestive of a gay watering place; for here the swarthy men and the olive-skinned women, dressed in bright colors and wearing flowers in their hair, come to bathe—a ceremony that has both a religious and a sanitary motive.



A VIEW OF THE VISHNU TEMPLE OF CHANGU-NARAIN

By a swing around nearly fifty miles in the vicinity of Khatmandu the pious pilgrim may visit the four shrines of Narain. The Changu shrine is the most frequented. Climbing the seemingly endless stairs is an essential part of the tribute to this deity, but the worshiper must be careful to avoid one step, which bears the sacred emblem of The Eye. Note the leaning figures beneath projecting eaves of the roof. By these the Nepal architect seeks to avoid a top-heavy effect which otherwise might result from the massive coverings he uses.

well executed figure in bronze, seated on a boldly designed pedestal of stone on a square pillar about 20 feet in height, with the royal umbrella rising above the figure.

Close by is the Ujatpola Deval, or Temple of Five Hagis, which stands on five platforms up which a flight of steps leads to the entrance. This stairway is guarded by five enormous pairs of figures carved in stone, the lowest pair being two giant wrestlers; above them two elephants ten times as strong as the men; above two lions ten times as strong as the elephants; next, two dragons ten times as strong as the lions, and finally two deities, most powerful of all.

In this square is also the Taumari Tol, dedicated to the Goddess Bhawani. The shrine in front has two magnificent brass dragons, one on each side, decorated with great splashes of vermilion. The brickwork is covered with brass plates deeply embossed, and on each side, on a lotus pillar, is a copper gilt lion holding a banner. This building has quaint and grotesque moldings painted in most vivid colors and lattice windows made of strips of gilt metal, the whole presenting a kaleidoscopic effect in the brilliant sunshine.

NEPAL'S LARGEST CITY A SLEEPY PLACE

Patan was the old Newar capital, where Buddhism was the accepted religion of the country before the invasion of the Gurkhas. Although the largest town in Nepal, it is a quiet, sleepy place, much of it falling into ruins, but still most picturesque. It stands in the center of the beautiful valley, against a background of green mountains and snowy peaks—a network of narrow, twisting little streets packed full of shrines, temples, and pagodas, many of them deserted and falling into ruins, but still with exquisite bits of carving and wonderful doorways of all shapes and sizes and wonderful designs.

Many of Patan's buildings are decorated with sheets of embossed copper gilt and everywhere the shrines are guarded by pairs of fearsome animals of enormous size. Carved stone pillars are surmounted by animals, birds, or fish modeled in metal; bells of all sizes are everywhere, and huge lotus thrones in bronze hold bronze Thunder Bolts, or Dorgis.

Kirtipur and Niakot are smaller cities, which, despite the evidences of decay on every hand, are full of beautiful and interesting buildings and shrines.

THE HOLY CENTER OF NEPAL

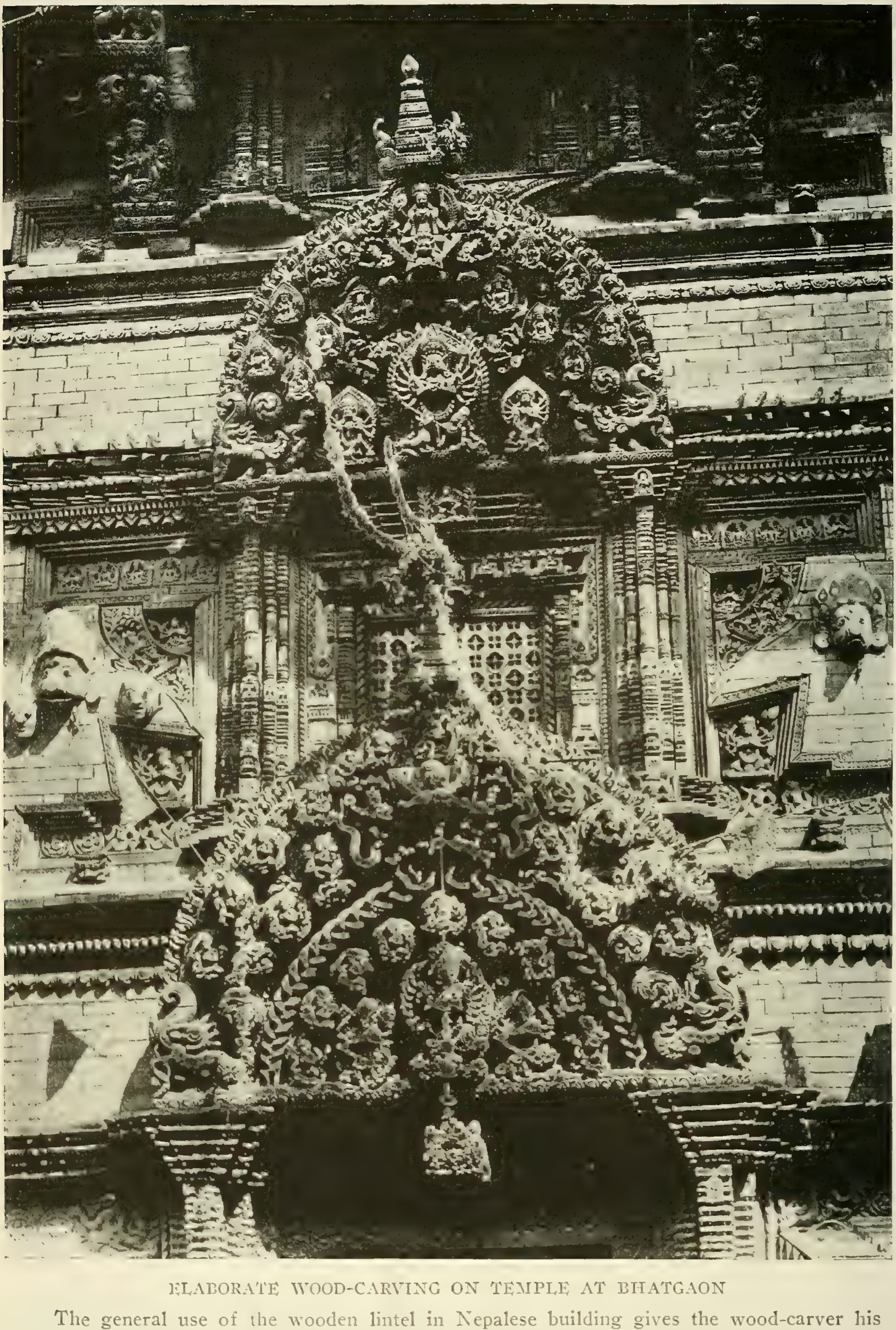
Pashpati is the holy center of Nepal, to which tens of thousands of pilgrims flock during the few days, once a year, when the country is thrown open. The roads are then one long, unending crowd of men and women, old and young, chanting as they go, "Pashpati nath ke-Jai." Its shrines and temples are clustered on the banks of the holy Baghmutti River, and there the dying are brought to end their days. To these Hindu it is a place as holy as is Benares to the plains men, and to die there, with the sacred water lapping their feet, means passing to everlasting peace.

The town is most picturesquely situated, the stream issuing from a narrow, beautifully wooded gorge and the golden roofs of the pagodas among the fresh greenery forming a lovely picture, enlivened throughout the morning hours by the constant stream of brilliantly dressed men and women coming to perform their religious ablutions before entering upon the day's work.

The Temple of Changu-Narain is situated on a spur of a mountain about eight miles to the east of Khatmandu and is reached by a winding path of stone steps, to climb which is part of the pilgrimage. It is one of the finest temples in Nepal, a veritable treasure-house of relics, its courtyard full of wonderful stone pillars and statues, the cloisters with exquisite carvings in many places richly colored and everywhere flashing sheets of hammered metal; brass and copper gilt beaten into every possible form—birds, beasts, fishes, dragons—standing out on a background of conventional design; bells everywhere; brass umbrellas, the emblems of royalty; great brazen and stone beasts crouching on all sides.

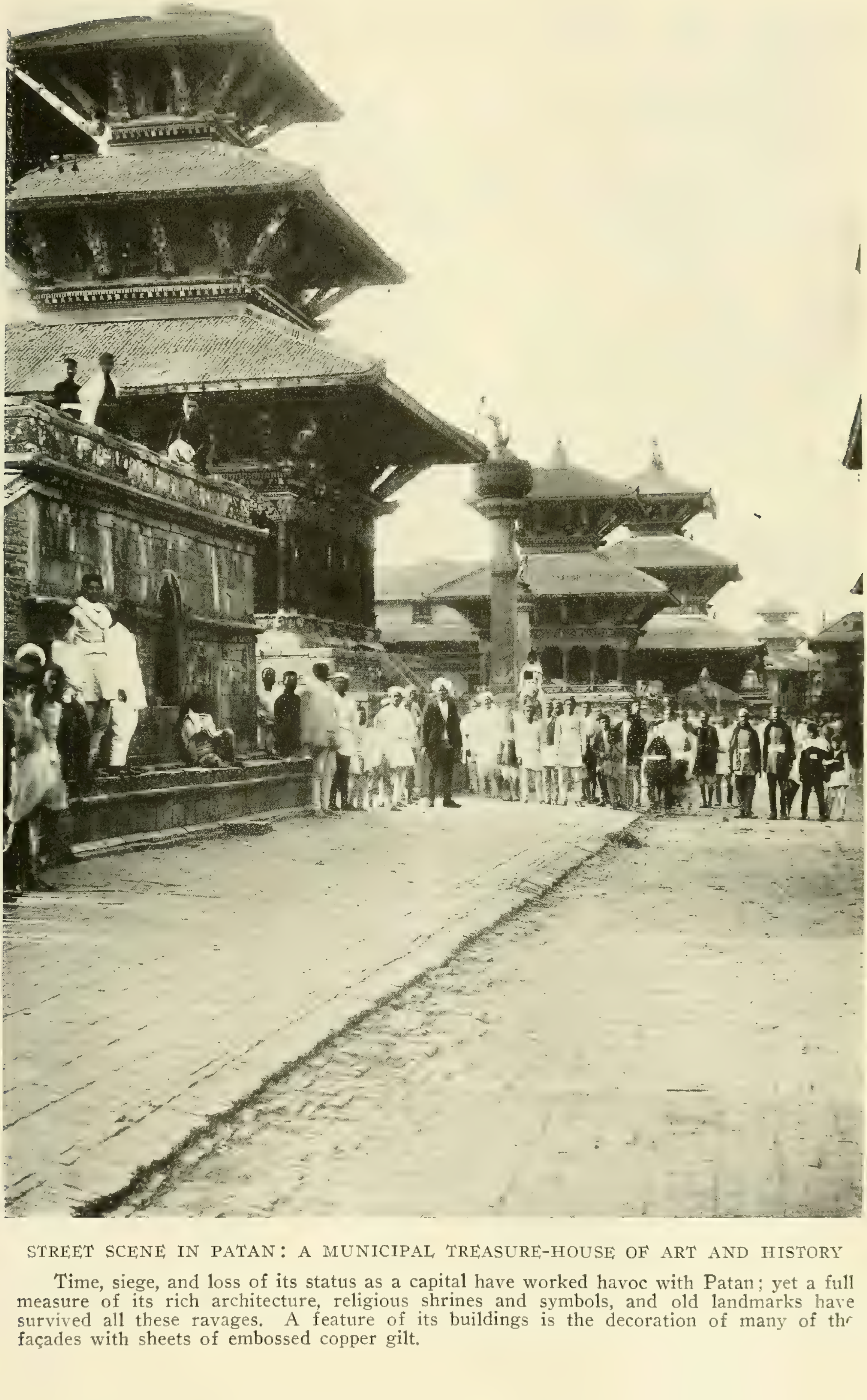
THE LEGEND OF THE GOD WITH THE TERRIBLE THIRST

The water garden of Balajee is a most fascinating spot, a mile or two outside Khatmandu, at the end of a long, shady avenue of trees. It is much frequented by the townspeople in the cool of the



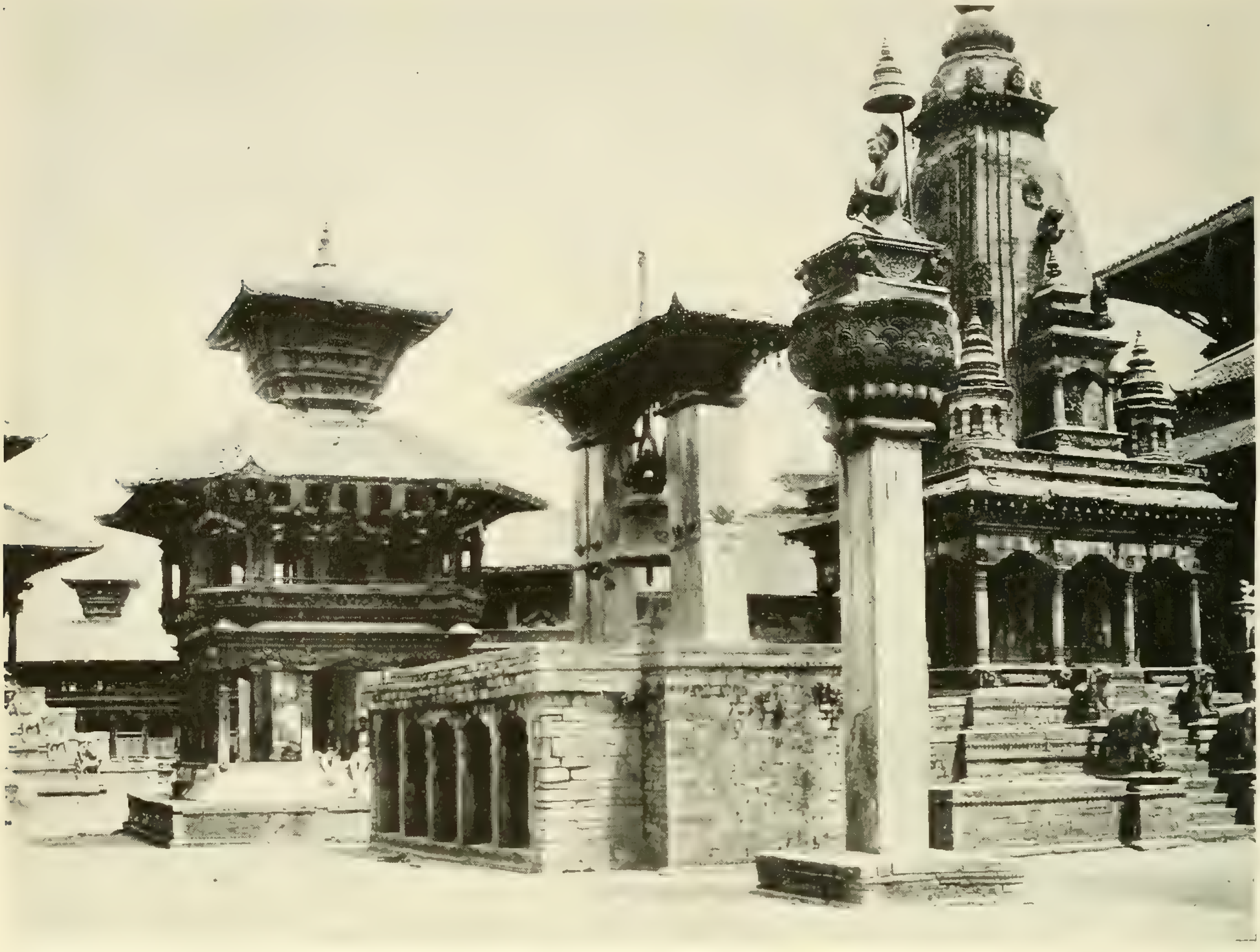
ELABORATE WOOD-CARVING ON TEMPLE AT BHATGAON

The general use of the wooden lintel in Nepalese building gives the wood-carver his golden opportunity and the Nepal structures a distinctive character. Perhaps nowhere else are windows and doors so generally found that have been treated so ornately. Note, too, the intricate lattice-work pattern in the aperture. Small pieces of wood are dovetailed with tedious skill and patience to form the numerous designs employed.



STREET SCENE IN PATAN: A MUNICIPAL TREASURE-HOUSE OF ART AND HISTORY

Time, siege, and loss of its status as a capital have worked havoc with Patan; yet a full measure of its rich architecture, religious shrines and symbols, and old landmarks have survived all these ravages. A feature of its buildings is the decoration of many of th façades with sheets of embossed copper gilt.



TEMPLE IN BHATGAON SHOWING SEATED FIGURE OF BHUPATINDRA MALL IN BRONZE ON CARVED PILLAR AND FINE BRONZE BELL

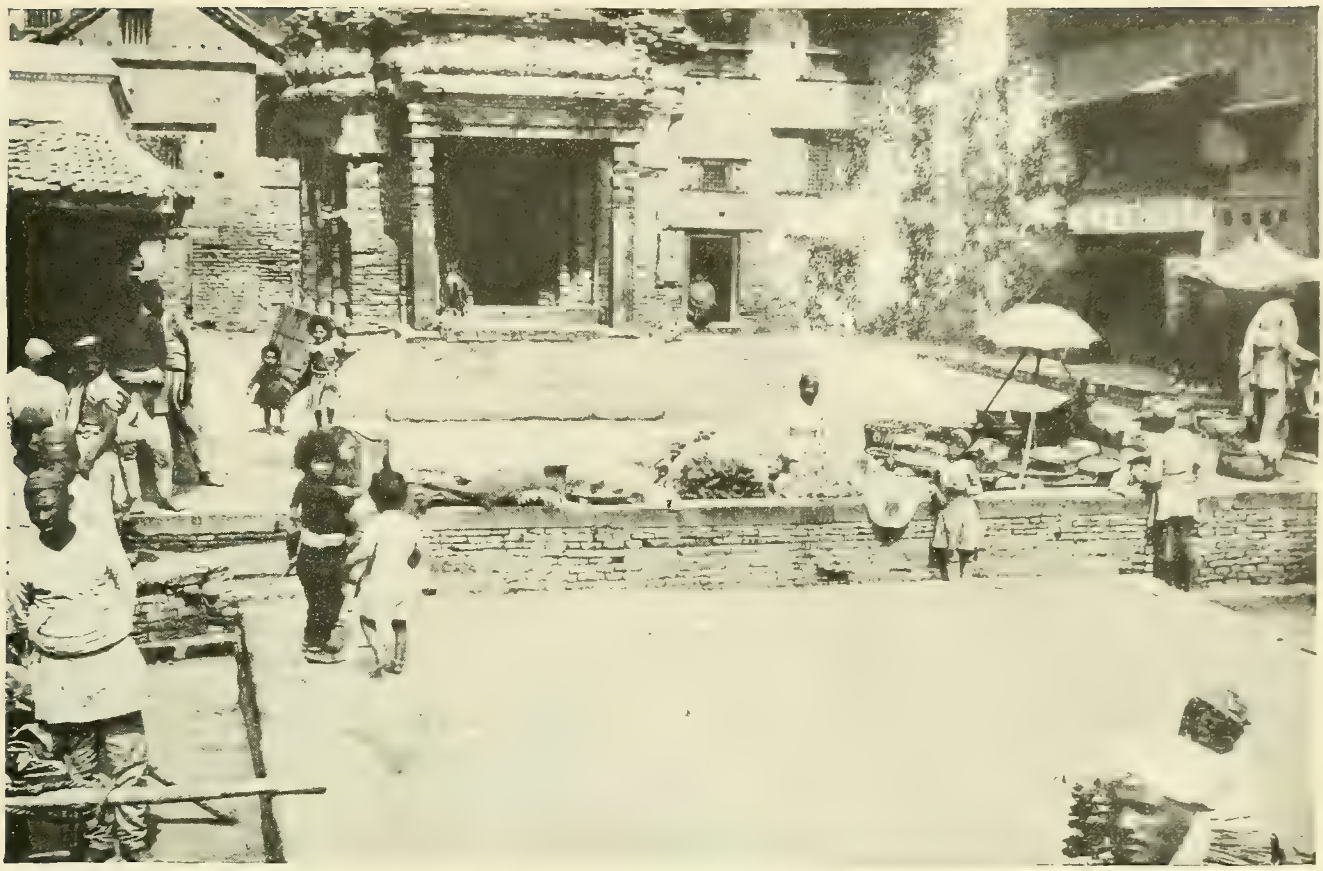
The Nepal builder's custom is to memorialize the patron, or some other prominent person of the period, by a statue on a tall pedestal near the structure he erects. In the case of the Durbar Hall of Bhatgaon a metal effigy was conceived in honor of the greatest of the city's rulers, whose image looks down upon one of the most beautiful buildings in all Nepal.

evening. The fresh spring water is collected in a number of terraced pools one above the other, clear as crystal and reflecting the green of the surrounding trees and bamboos. Along the supporting wall of the lowest pool is a row of about twenty dragon-head spouts, some enormous, others smaller, but all beautifully carved and executed, from which clear water splashes into a tank beneath.

Balajee has its own religious significance, found in a small tank on one side, near a temple decorated with Tantric carvings. Under the water lies a carved stone figure of Narain, about ten feet long, with a hood of cobra heads just rising above the water. It reclines on a stone bed with four carved stone posts, rising one from each corner, evidently at one time the support of a canopy. Fish dart here and there in the clear water which gently flows over it.

Narain is the creator Brahma, so called from *Nara* (waters) and *Ajana* (place of motion). At one time he suffered the most excruciating thirst, having drunk poison from the sea, and to assuage this he repaired to Gosainthan, in the snowy regions of the Himalayas, where, striking the mountain with his trident, he caused three streams of water to flow, forming a lake. Pious pilgrims fancy they can see the god lying in his bed of snakes. The tradition is that if ever the ruling king of Nepal visits this lake his death will immediately follow.

The great Buddhist stupa of Bodhnath, one of the oldest Buddhist temples in the valley, is a striking example of another form of shrine. The dome-shaped Chaitya rests on a semi-spherical mound surmounted by the square base of a spire capped by a golden umbrella, while great pairs of eyes have for a thousand years



A STREET SCENE OF KHATMANDU

In a Nepal city a public square is as invariable as is a common or green in a New England town. This square always contains the "durbar," or royal palace, and on the remaining sides usually are to be found shrines and temples. From it radiate irregular streets, and presently other thoroughfares will converge with these to form lesser squares—a method of city planning suggestive of that in our own National Capital. The streets, even when squalid, have an alluring quality, with their carved doorways, archways through which one glimpses a courtyard, and innumerable idols festooned with flowers.

and more looked out calmly and serenely to each of the four quarters of the globe from underneath the overhanging eaves.

Equally famous is Swayambunath, another temple of the same type and even richer and more frequented. It is most picturesquely situated on the top of a wooded hill approached by a steep, almost perpendicular, flight of 500 steps and closely surrounded by smaller shrines, each in its own way a gem of architecture and carving. In front of the temple is the gigantic Dorgee, or Thunderbolt of Indra, resting on a carved stone pedestal. Thousands of pilgrims from all countries flock to this, a Holy of Holies to the Buddhists.

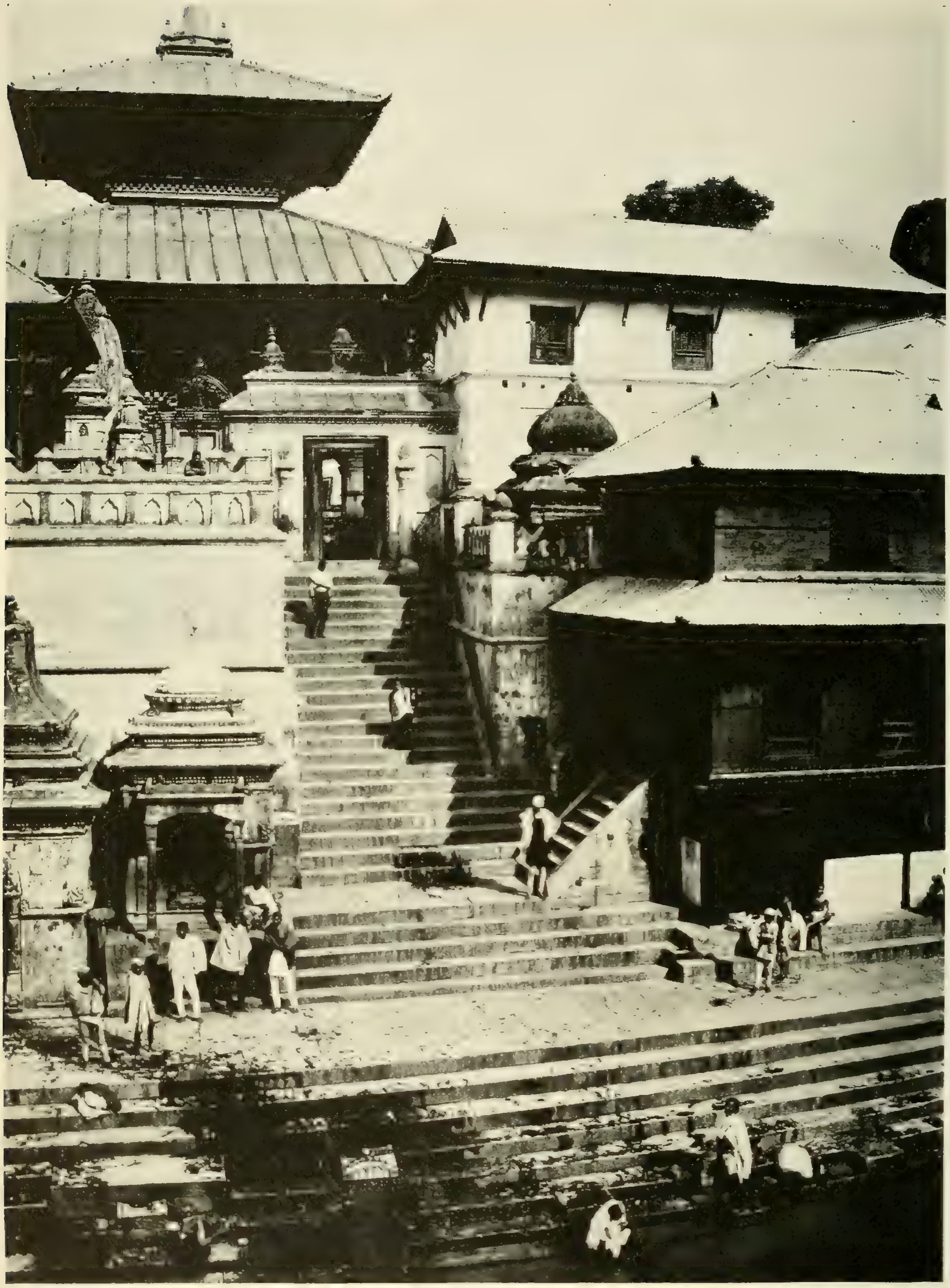
THE NEPALESE EXCEL IN METAL-WORK

The art of the Nepalese, or, properly speaking, the Newars, is worthy of special consideration. It was the Newars who brought art to its highest state of perfection, and their influence has extended through these hills into Sikkim, Bhutan, and Tibet. Indian influence has penetrated from the south with the advance of Buddhism and has spread through the hills, along the Brahmaputra Valley, to Lhasa. On the other hand, Chinese influence is also strong and there has been intercourse with that country for many centuries.

Nepal probably excels in metal-work and wood carving, though followed very closely by Sikkim, Bhutan, and Tibet.

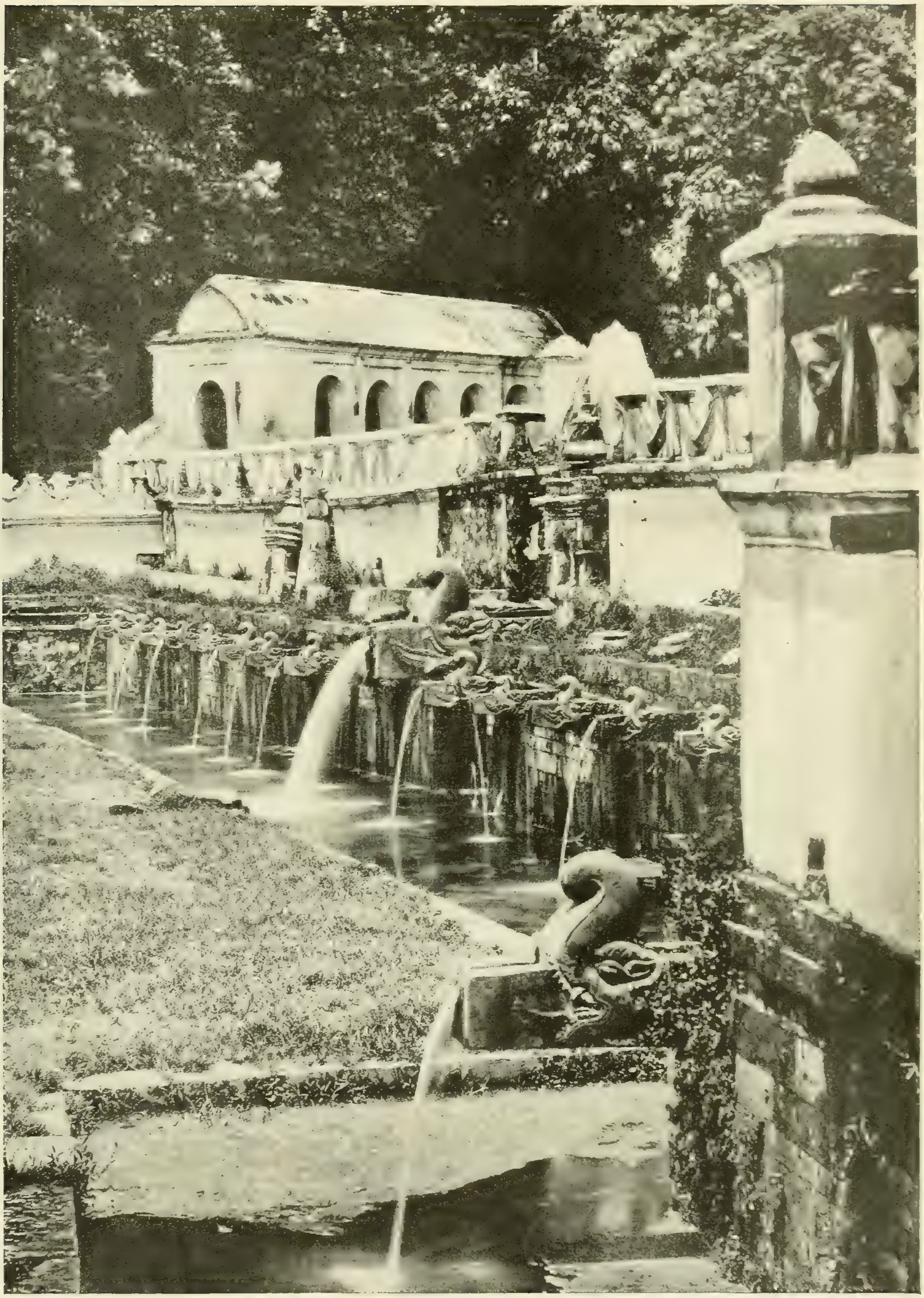
In their architecture, the Newars have distinctly drawn upon China, as shown in their pagoda-shaped temples, while in Sikkim, Bhutan, and Tibet the buildings suggest an even earlier period, possibly that of Egypt.

In their metal-work all these countries follow the same method. For beaten-work, the metal employed, whether copper, brass, silver, or gold, is first hammered to the required thickness, then shaped on a mold made of lac. It is then



STEPS LEADING FROM THE HOLY BAGHMUTTI RIVER TO THE TEMPLE AT PASHPATI

Once a year Nepal is thrown open to visitors and multitudes flock to Pashpati. Temples and shrines of this holy place cluster along the Baghmutti River, where the dying aspire to pass away as the sacred waters lap their feet. To the casual sightseer the place has a rare beauty of architecture and setting, aside from its religious significance.

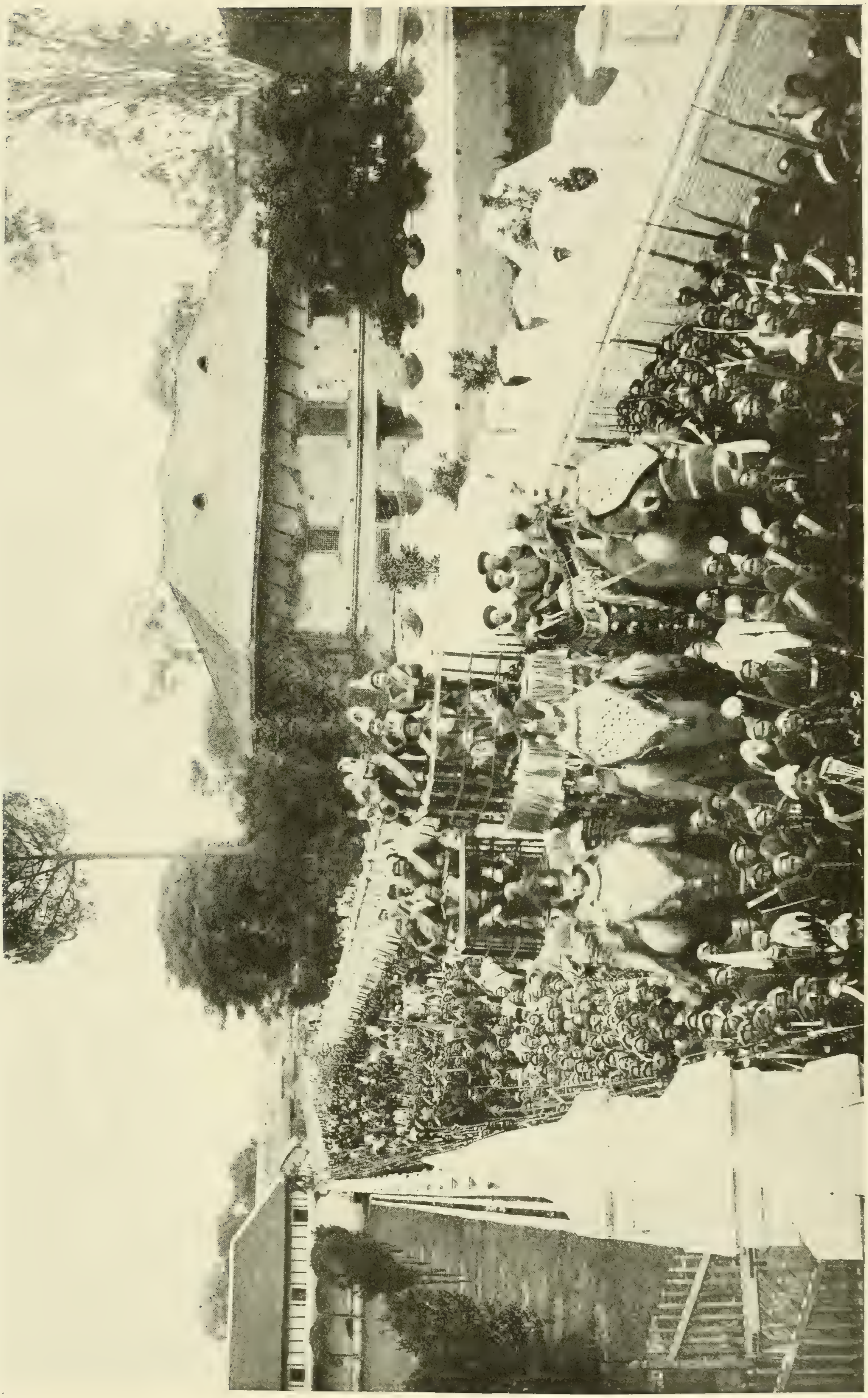


BALAJEE, WHERE NARAIN, THE MOSES OF THE BUDDHISTS, SMOTE A MOUNTAIN TO BRING FORTH WATER FOR HIS TERRIBLE THIRST

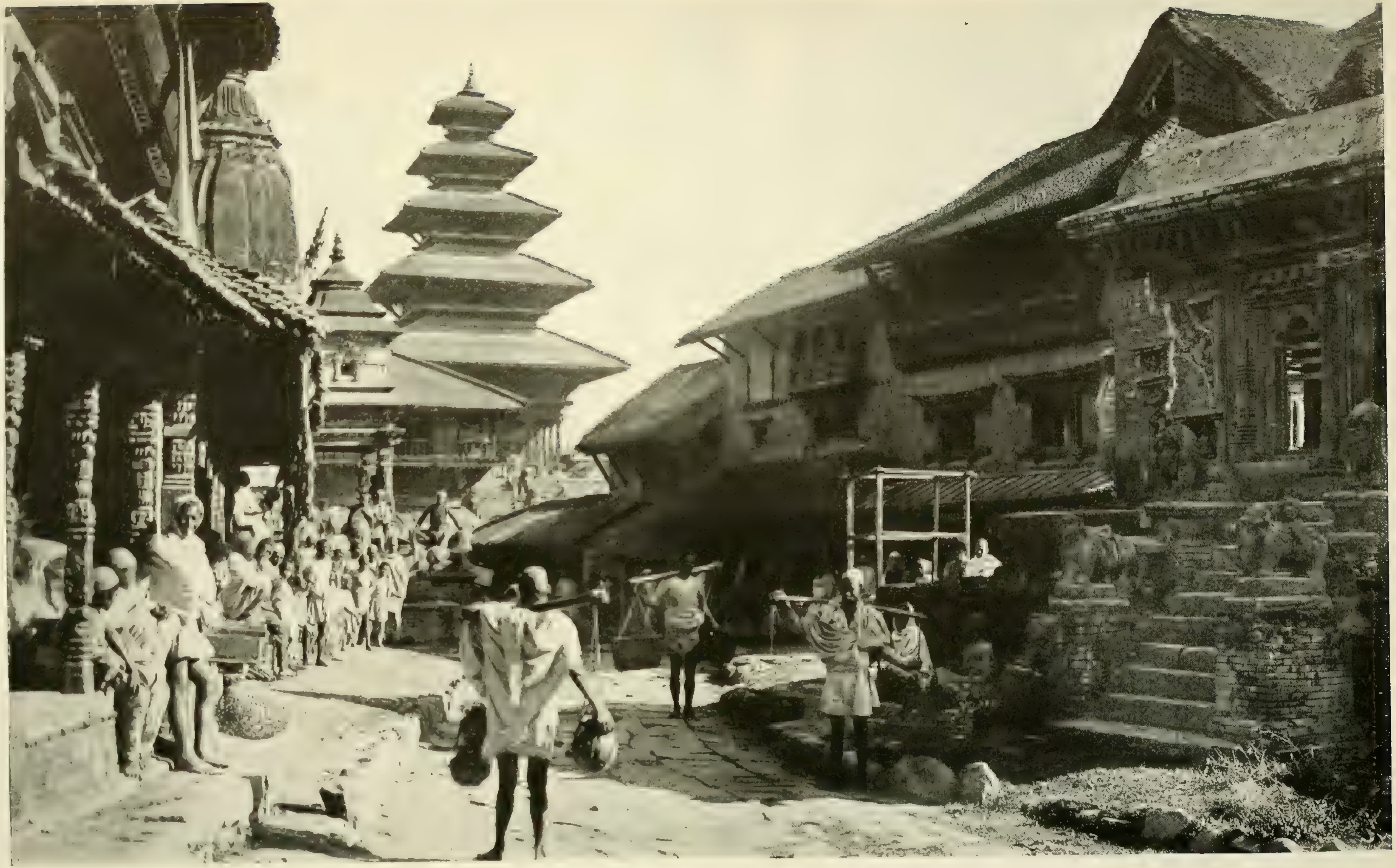
Today the crystal spring water at this hallowed spot is collected in terraced pools, and provides a shrine, a beauty spot, and an evening resort for residents of Khatmandu.

MISTY MORNING IN NEPAL JUNGLE

From the Nepal forests comes valuable timber, especially the "sal" employed so extensively in wood-carving; and there, too, the Nepalese hunt the bear, the buffalo, and the rhinoceros. The primitive mode of bear-hunting was to bind the left arm with a blanket, grasp a club with the right hand, clutch with the teeth the "kukri," a heavy knife with a seemingly infinite variety of uses, and to sally forth for a hand-to-paw encounter. When the bear was about to close, the hunter clubbed him on the nose and, while the animal still was dazed, dispatched him with the knife.

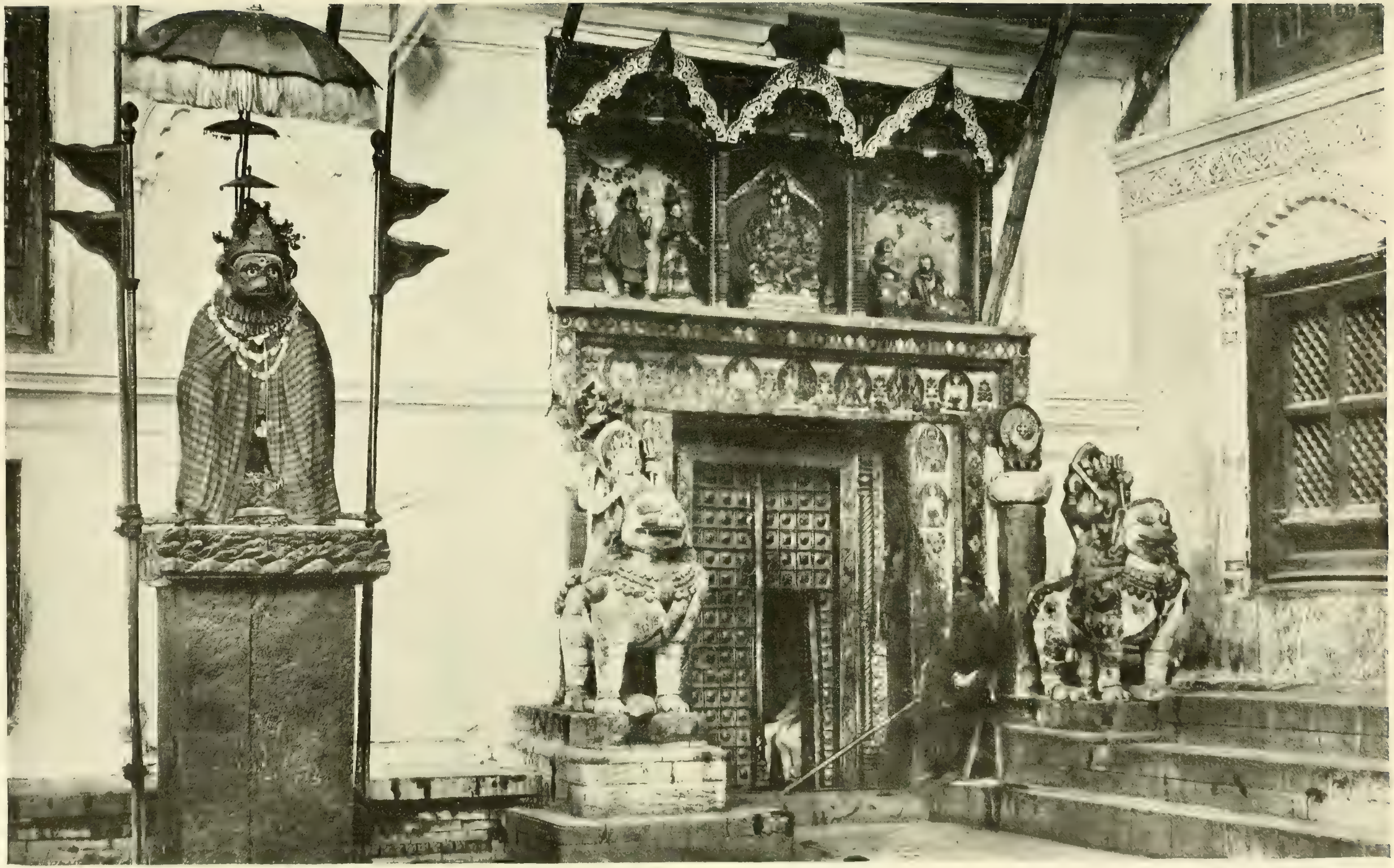


CEREMONY AT KHATMANDU IN HONOR OF A CHINESE EMBASSY



BUSY NEPAL STREETS KNOW NO SPEED LAWS NOR TRAFFIC POLICEMEN

Vehicles are almost unknown except in Khatmandu, and animal carriers are rare, for the country long ago launched a bad-roads movement as its major military protection. A considerable export trade is borne almost wholly on the backs of natives, who are accustomed to surprising loads, up to 300 or 400 pounds. For lighter town cartage, coolies use bamboo poles, as in this street scene in Bhatgaon.

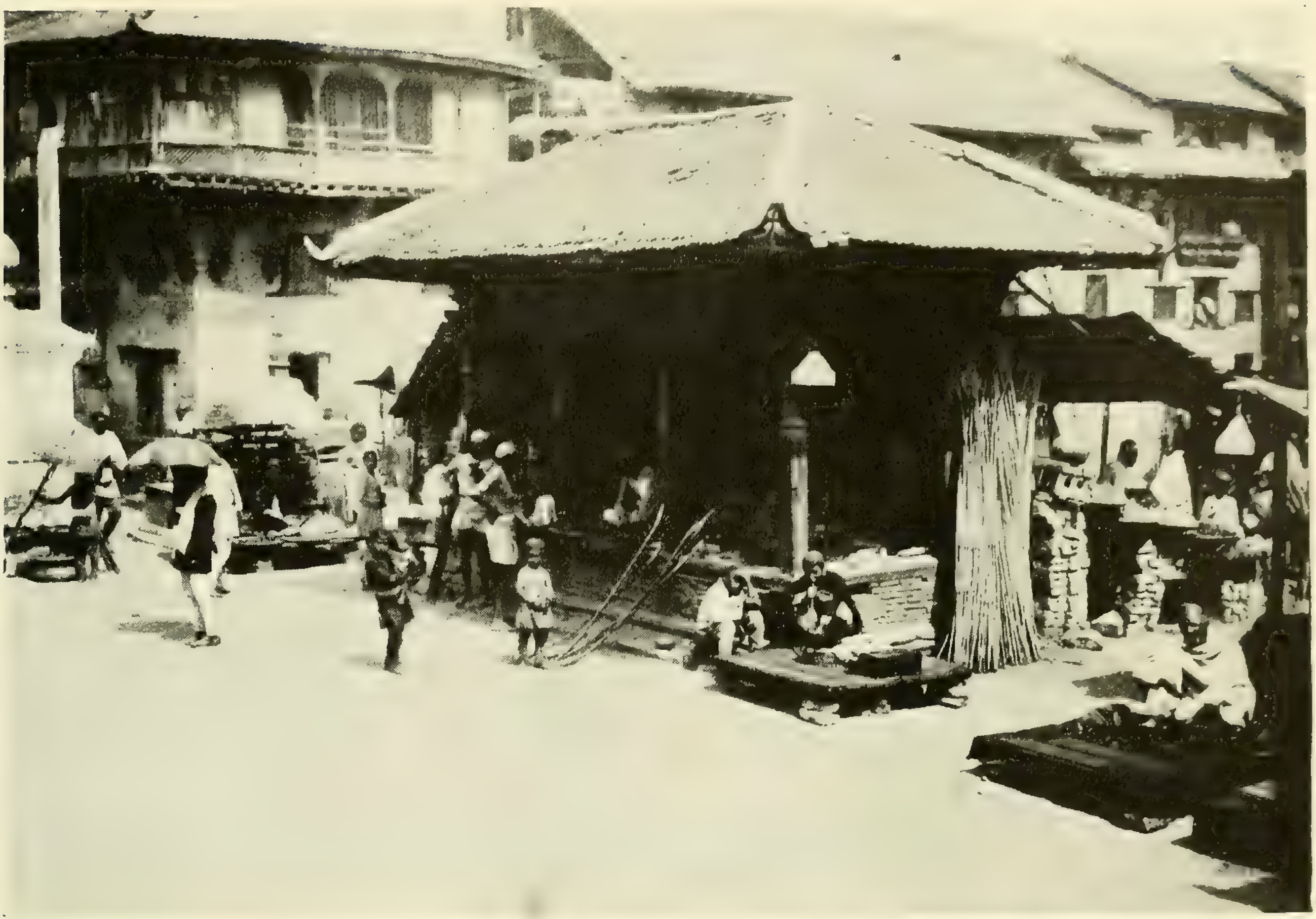


HUNUARGAN DHOKA DURBAR

Nepal is a rare repository of Buddhist and Hindu lore, to be studied in images such as these. First ruled by the Brahmans of the Hindu faith, Buddhism was introduced, as in India; but Nepal did not abandon the old faith as India did. Rather, the religions were combined. Neither did the Mohammedans, who later planted their religion in India, influence Nepal in any degree.

GROUP OF SHRINES AT SWAYAMBUNATH, ONE OF THE HOLY CITIES OF NEPAL

Adherents of Buddhism and Hinduism are about equally divided among the estimated 5,200,000 population of the country. Nepal yielded to the painstaking study of Brian Houghton Hodgson, former British resident at Nepal, some of the most valuable manuscripts now existent concerning Buddhism. The isolation of Nepal and its even, arid climate combined to preserve records of unique historic value



THE MARKET-PLACE OF KHATMANDU

The present capital is the Chicago of Nepal. It lacks the mellow age of Bhatgaon and Patan; but it is more colorful, busier, and more modern. It has been described as a "medley of tumbled wood-carving, brass grotesques sprawling over uneven pavements, quaint overshadowing roofs surmounting rich red brickwork, and ever and about a moving variegated crowd, the whole combination in its confusion of decoration, buildings, and people presenting a scene of unrivaled orientalism."

rubbed over with wet clay, leaving a thin layer on the surface. On this the pattern is drawn or scratched and then hammered with various home-made instruments till the required relief is obtained. If the relief is to be high, the filling is removed from the metal and the process continued on the back, again turned, and the final finish put on. When gilding is required, an amalgam of gold and quicksilver is placed on the baser metal. The quicksilver is burned off and the deposit of gold is burnished with an agate.

The Nepalese combinations of copper or brass with silver are very fine, the salient parts in the silver often being picked out with gold.

PREPARING MODELS FOR METAL CASTING

In the work of casting, a model is made of wax and first thickly coated with a mixture of clay, cow dung, and charcoal. When the first coating is dry a second coating of the same substance, mixed with chopped straw, is applied, to give the required stability. The wax is then melted out and when the mold is perfectly dry the molten metal is run in. Some very excellent results are obtained, the detail and delicacy of pattern being wonderful. These methods are used for building ornamentation and altar utensils as well as for articles for domestic use.

Some excellent weapons, especially the kukri, a knife worn universally by the Nepalese, are made, and the better specimens are often chased and inlaid with gold. They also make good koras, or sacrificial knives.

Nepalese wood-carving is extraordinarily beautiful and ornate. Every scrap of wood is carved in some manner; the struts upholding the eaves of shrines represent satyrs and dragons, while windows and doors are examples of the most elaborate and minute workmanship of every conceivable design. The verandas and overhanging balconies are highly ornamented and the work on some of the pillars is very bold and striking.

In weaving, the natives are deficient, the only cloth made being a coarse cotton of no artistic value.

In the neighboring State of Sikkim excellent metal-work is produced. The Sikkim wood carving is also good, but not comparable to that of Nepal.

The Bhutan metal-work is excellent, especially the swords, the wrought iron being hammered out after each of a succession of heatings and reheating in charcoal and eventually becoming a mild steel. These weapons are sheathed in most artistic silver and gold scabbards.

Some of the dagger sheaths are made of beautifully worked and pierced silver, with dragon patterns running through and beneath the open-work.

BHUTANESE SKILLED IN CLOTH-MAKING

The Bhutanese also make excellent cloths, both of cotton and silk fabric, and many of them are of exceptional quality as well as artistic design. Their wood-carving is on the same lines as that of Sikkim.

The teapot (see page 278) is an excellent piece of work and came from Lhasa. It was part of the property of the late Regent, who was in power when the present Delai Lama came of age. He was detected in using evil spells against the Delai Lama, and consequently was first degraded and eventually sewn into a skin and thrown into the Kychu River, his possessions being confiscated and sold, and the writer was lucky enough to obtain some of the articles, including this teapot.

The feudal system, which has prevailed among these hills for many years, is in a measure responsible for much of the artistic work of the natives, for it enables a man to put his whole energy into his work. He has no care about food or housing; it is to his master's and his own advantage to produce the most artistic work possible. Time is of no account and he has no occasion to work at high pressure or to work when the spirit does not move him.

All this tends to the creation of objects in which the artist can put his individuality.

The early history of Nepal is obscure and the outer world had but few relations with it prior to 1767.

NEPAL INVADED BY THE GURKHAS

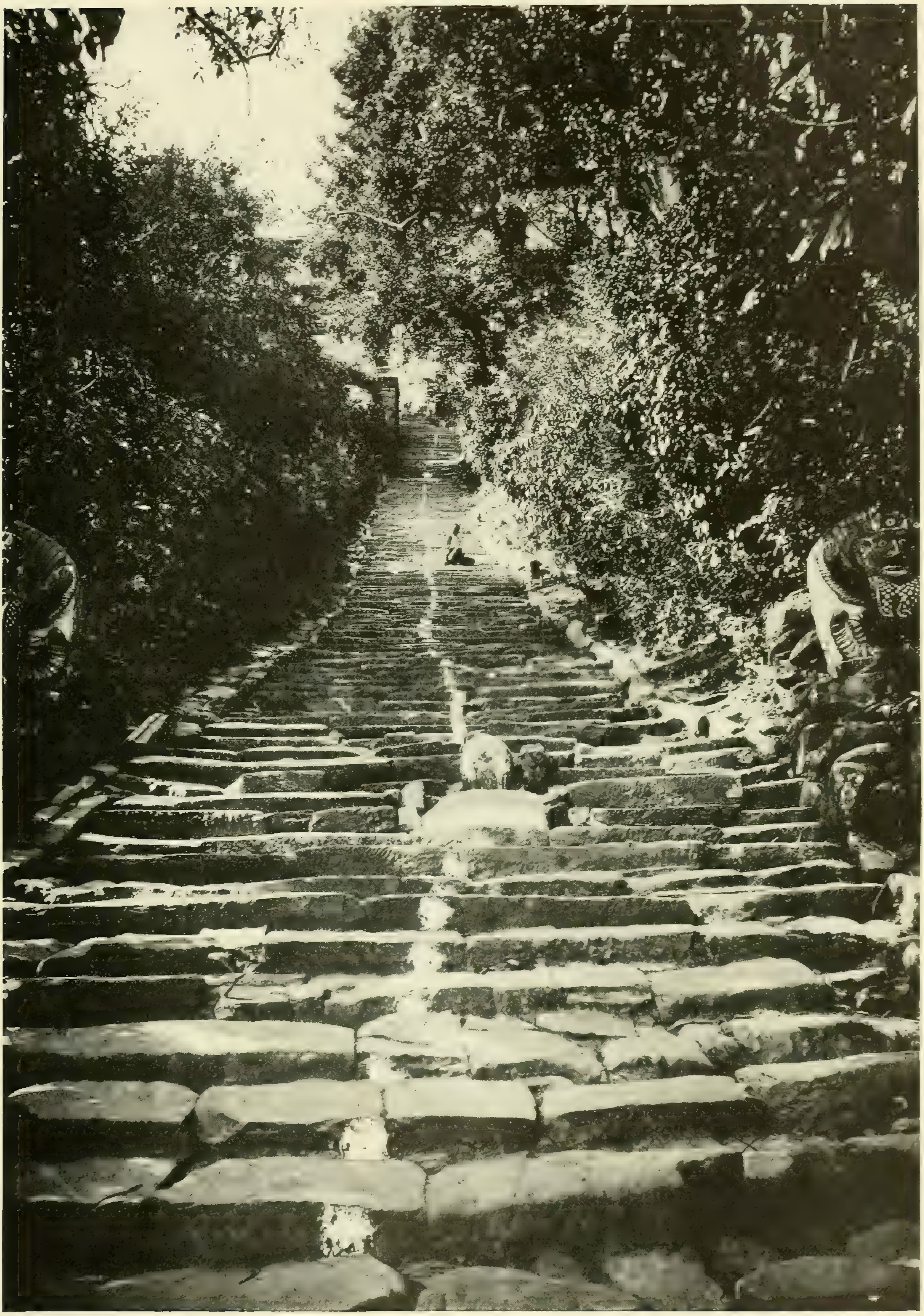
In that year the Gurkhas, who claim descent from the Rajputs, a fighting race in northern India, invaded the Valley of Nepal under Prithi Narayain, and the Newar Rajah of Nepal appealed to the British for assistance. His prayer was granted and Captain Kinlock was despatched to his assistance in command of a small military force. Unfortunately, he commenced his journey in the rainy season, and fever attacked his men and himself to such an extent in the Terai, always notorious for its unhealthful conditions, that he was compelled to return, and the Newar dynasty, unable to withstand the warlike Gurkhas, was extinguished.

In 1792, after the Gurkhas, now firmly established as the ruling people, had plundered the temple of Digarchi in Tibet, the Chinese sent an army to punish them; and this they did to such good effect that the Nepalese were obliged to conclude a treaty with the Chinese general within a few miles of their own capital. In order to commemorate this victory of the Chinese over the Nepalese, a pillar was erected in Lhasa, where it still remains.

In 1814, after much provocation on the part of the Nepalese, who laid claim to land in the plains of India, war was declared on them by the East India Company, and at its conclusion, in 1815, the Treaty of Segowlie was signed and Brian Hodgson was appointed to be the first Resident at the Nepalese Court.

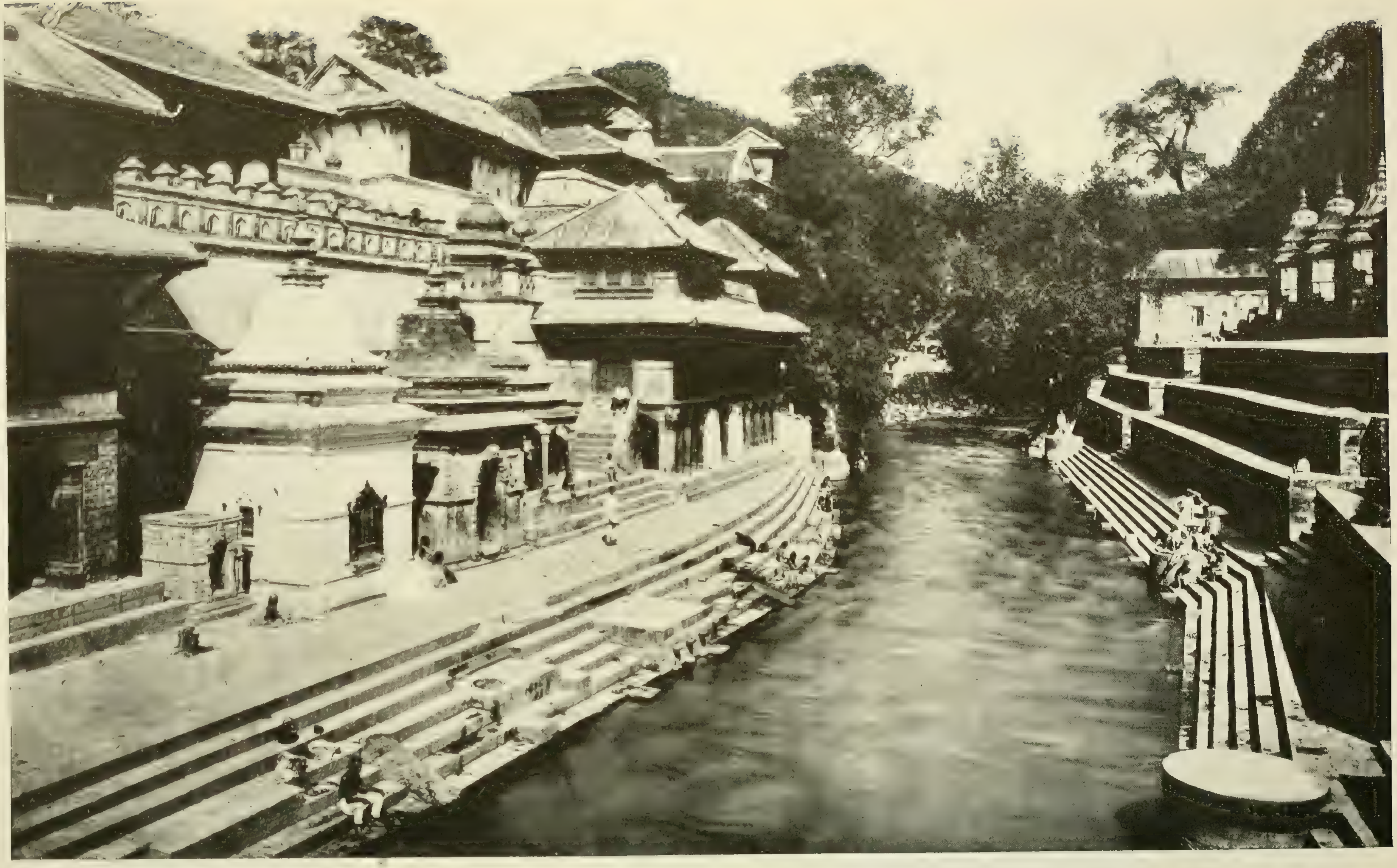
MOST OF NEPAL'S MAHARAJAHS DIE SUSPICIOUSLY YOUNG

From this time onward, as it doubtless was before, had we known about it, the history of Nepal is one long chronicle of bloodshed and treachery. The different factions, each desirous of obtaining power and equally callous as to the means used to obtain it, stopped at nothing. The post of Minister to the Maharajah was eagerly sought, the Maharajahs being,



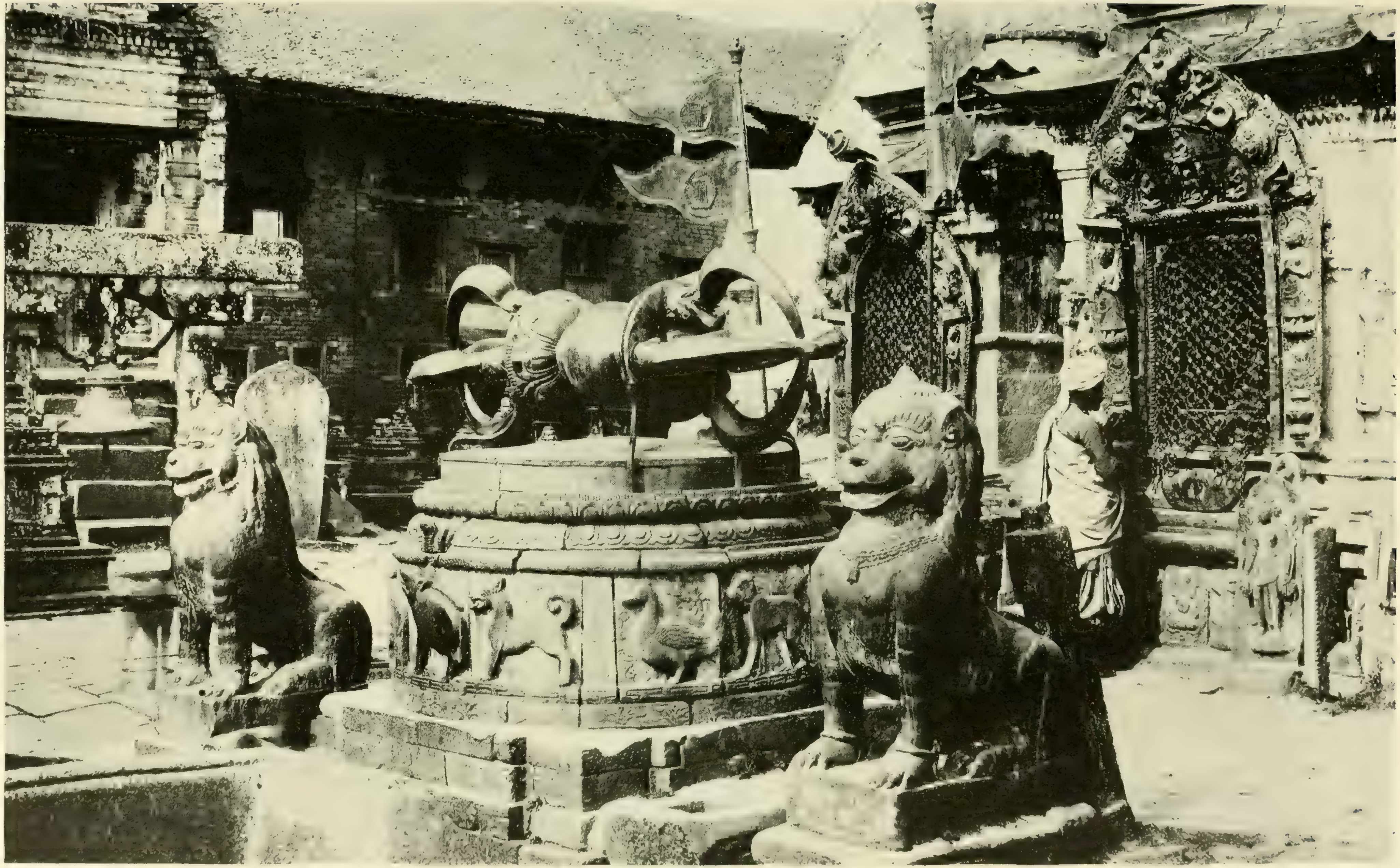
THE FINAL TEST OF PIOUS PILGRIM'S ENDURANCE AT SWAYAMBUNATH

In Nepal the pilgrimage still is as dominant as in the days of the Crusades. The last stage of the worshiper's journey usually consists of steps, and the revered Swayambunath, atop a wooded hill, is reached by a flight of 500 steps.



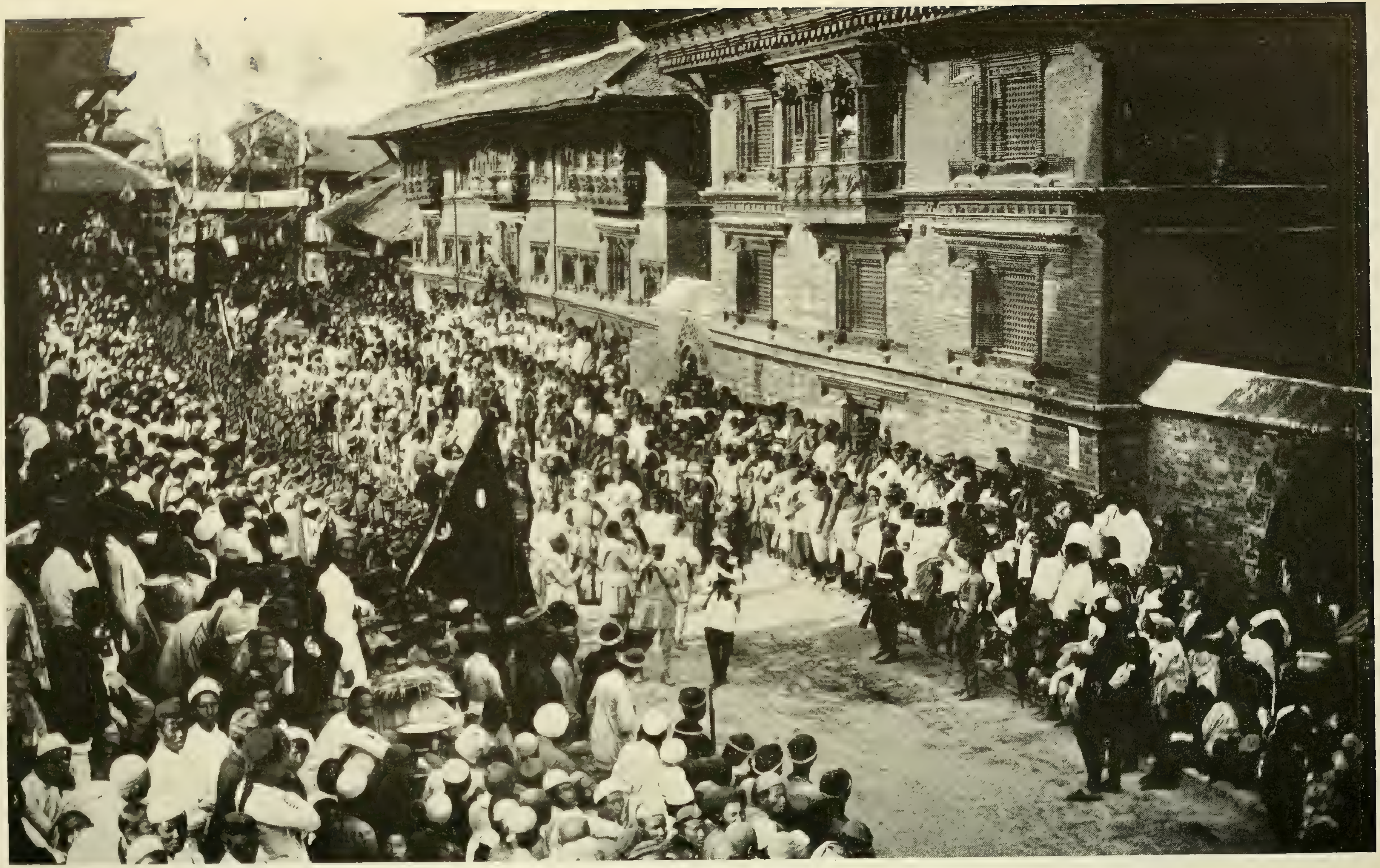
A TEMPLED, VENICE-LIKE VISTA ALONG THE GANGES OF NEPAL

In the Valley of Khatmandu alone are some 2,700 shrines. Many of them are elaborate temples, such as this of Pashpatinath, built along the banks of the sacred river, Baghmutti. The sick are brought to be dipped in the waters of this stream and on its banks the dead are cremated. Formerly the widow would jump into the fire as it consumed her husband's body, but this practice (sati, or suttee) has been abandoned except in remote regions.



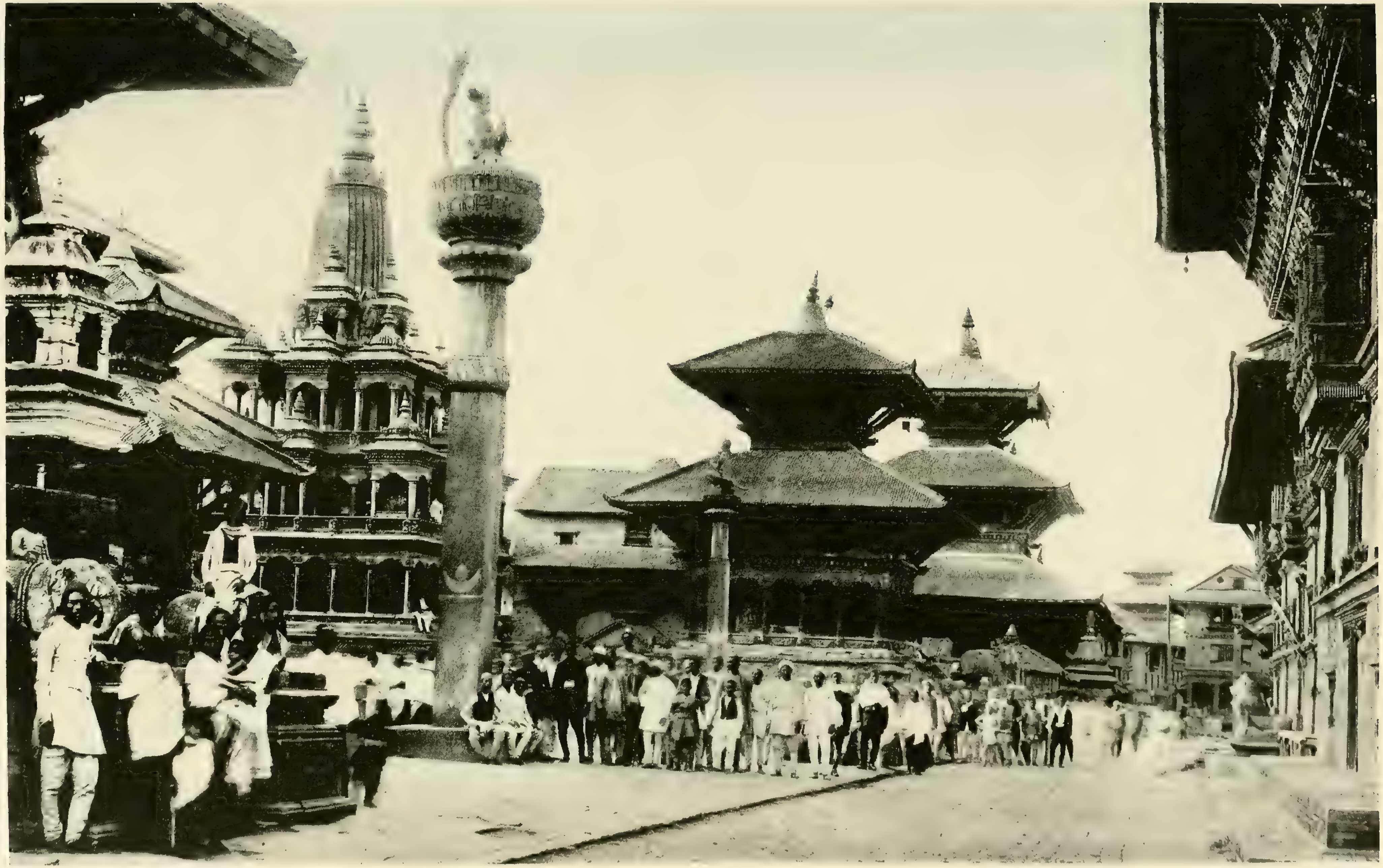
THE THUNDER-GOD: A HOLY OF HOLIES AMONG HINDUS OF NEPAL

This gigantic Dorgee, or Thunderbolt of Indra, mecca of pilgrims from far beyond Nepal's borders, represents the Thunder-God of Hindu mythology, whose function was to transfix the demon who held back the rain, and thus bring about refreshing showers. It is situated at the top of 500 steps before the temple Swayambunath.



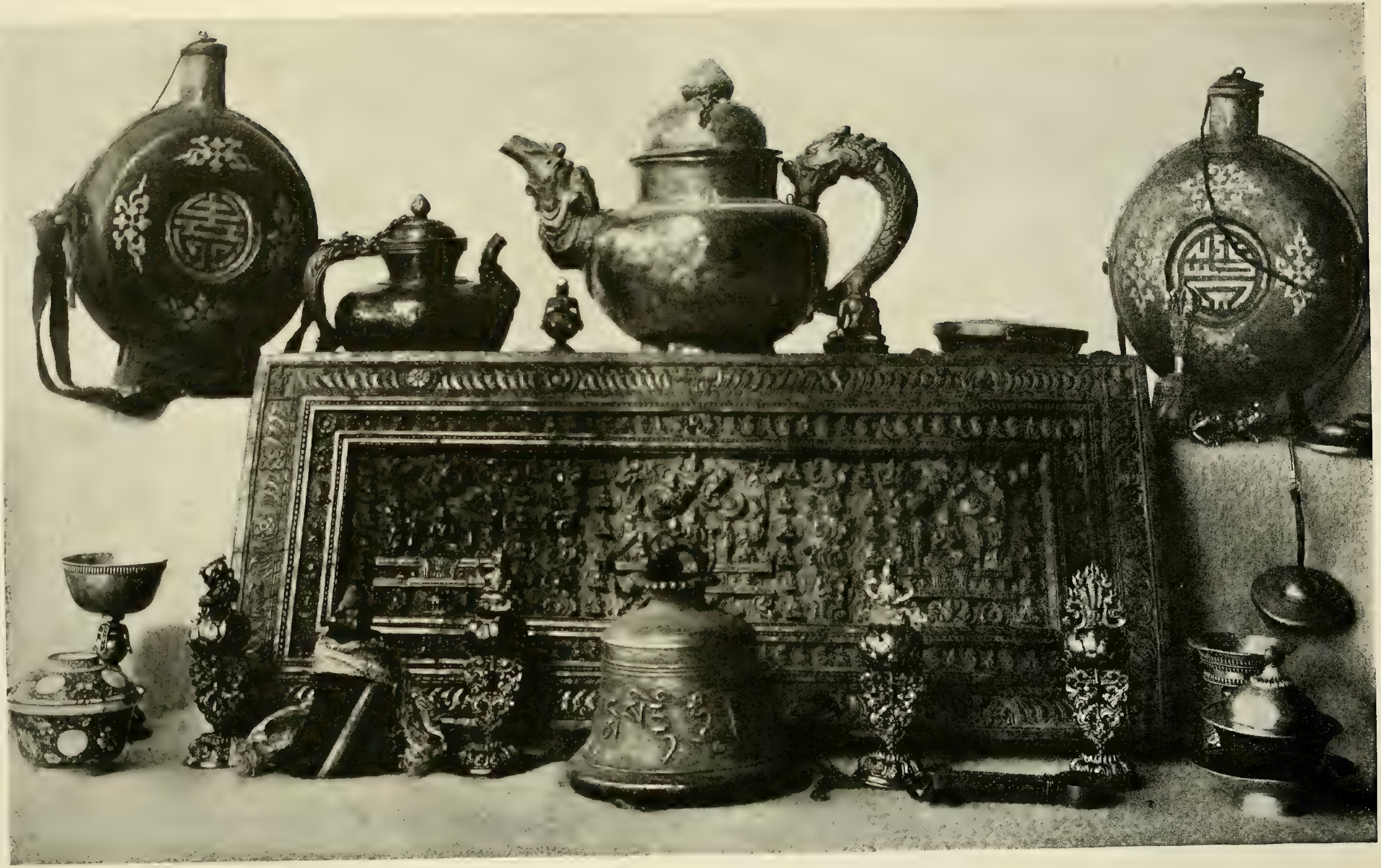
MAHARAJA DEB SHAMSHEIR'S STATE VISIT TO PATAN

Life in a Nepalese city seems to the uninitiated just one Mardi Gras after another. A dignitary's visit is the occasion of a special holiday, while there would be more red-ink dates than black were the festivals designated as on an occidental calendar. There are ten national celebrations and numerous other local and religious observances. Some last a week, one ten days, and not only the attendance, but the part each person plays, is regulated by rigid custom. One family, for generations, will have danced, another provided music, a third will have built vehicles to be used for the gods, and so on.



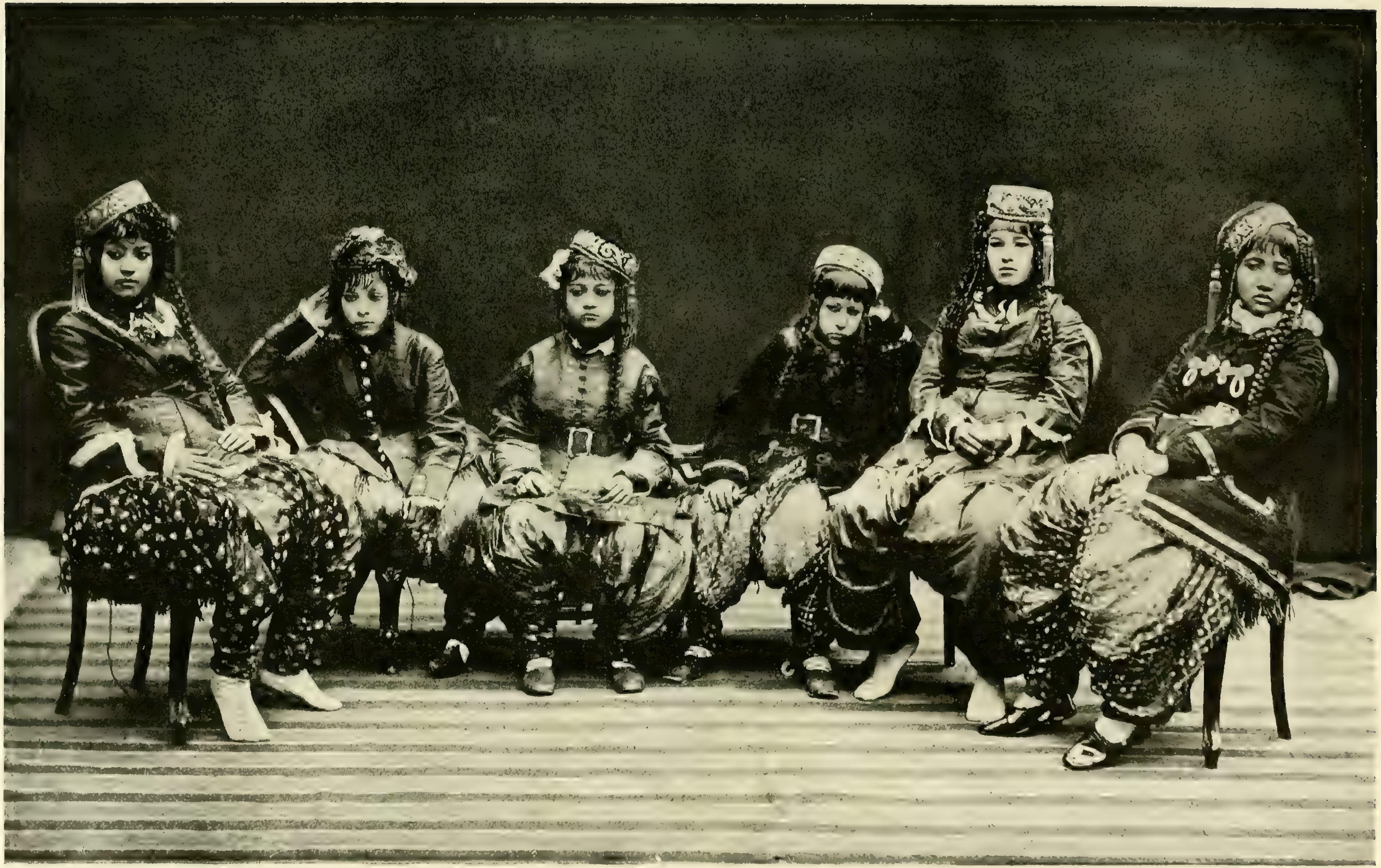
STREET SCENE IN PATAN, THE LOUVAIN OF NEPAL

Eight years before our Declaration of Independence was signed Patan was taken by the Gurkhas, and, as in Belgian cities in 1914, plunder, barbarity, and vandalism ensued. Though Patan is a Nepal metropolis, it never recovered, and today broken shrines, shattered arches, and mutilated monuments are to be seen at every turn. Of its streets Hodgson quaintly said: "It is often requisite to walk heedfully . . . lest, perchance, you break your shins against an image of a Buddha."



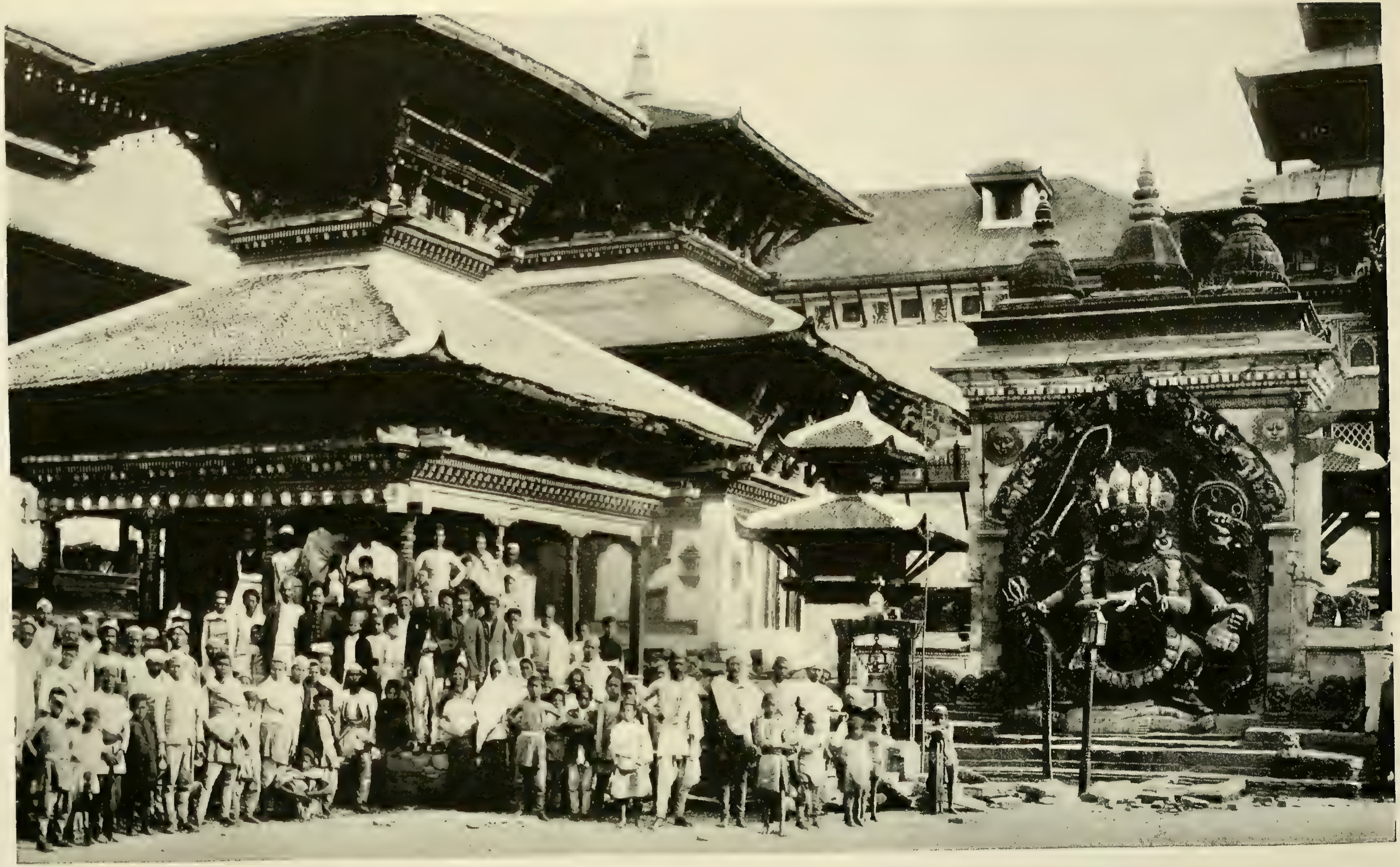
ARTISTRY OF THE BORDER STATES (SEE PAGE 272)

Top row, from left: Water bottle in iron inlaid silver, Tibet; teapot, Tibet; hat ornament, copper-gilt set turquoises, Tibet; teapot, Sikkim; image, Tibet; cover for porcelain cup, Tibet; bell, Tibet; dorji, Bhutan; pair of cymbals, Tibet. Center: Wood-carved book back, gilt. Bottom row: Enamel cup, charms, silver butter lamp, set four copper-gilt Buddhist emblems, Buddha, given to author by the Thi Rimpoche in Lhasa; bell, Bhutan; butter lamp, Tibet; cup cover and stand, Sikkim.



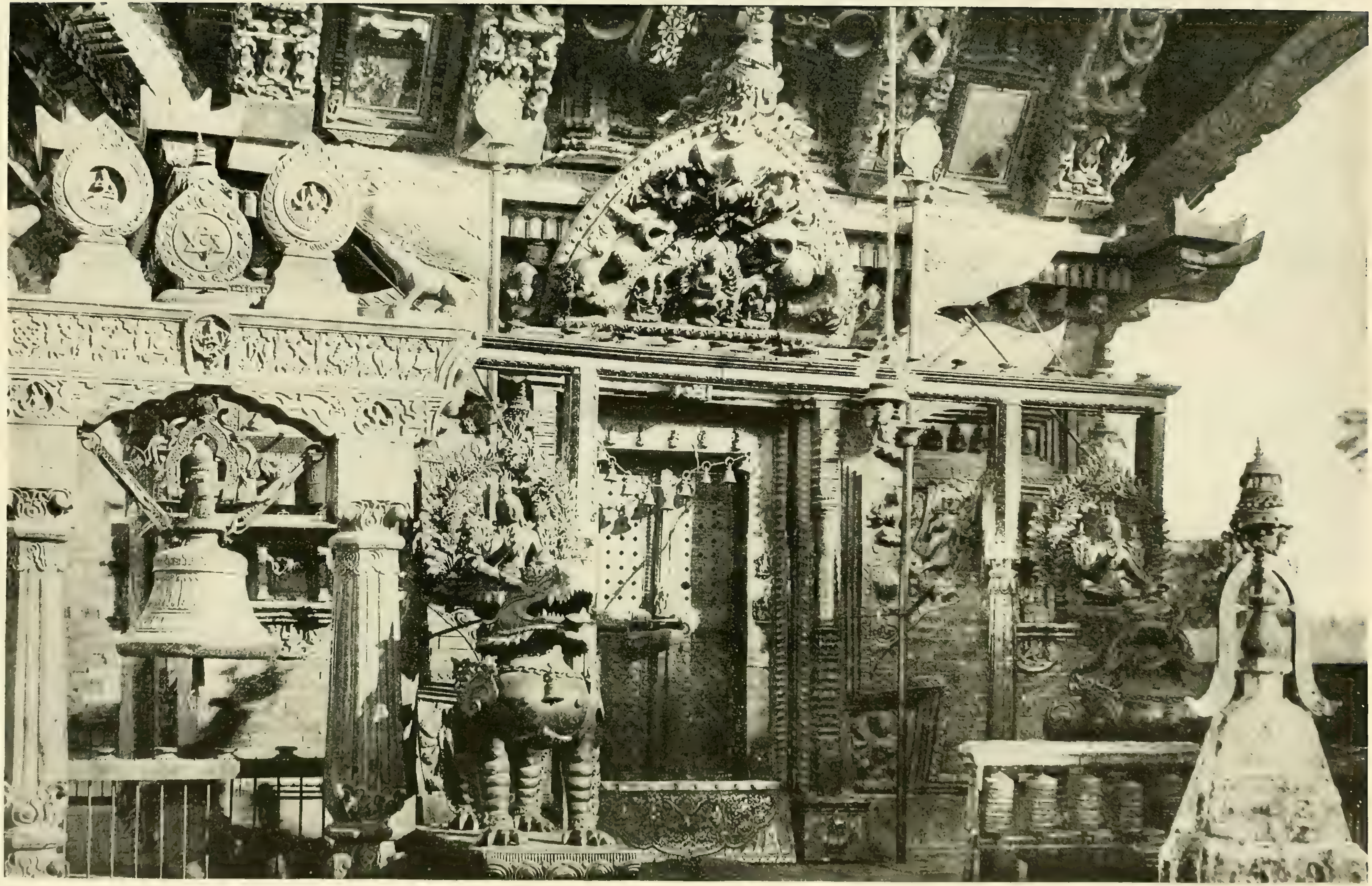
GROUP OF NEPALESE LADIES

Nepal (also Nipal) is an independent State on the southern slope of the Himalayas, bounded by Tibet on the north, by Sikkim and Bengal on the east, and by Bengal and the United Provinces of British India on the south and west. The Nepalese are considered to be a Mongolic people, with large infusions of Dravidian and Aryan blood—a hybrid race of Mongolian and Caucasian mixture. The typical representatives of the Nepalese are the Gurkhas, whose Aryan ancestors from Rajputana mixed with the aborigines.

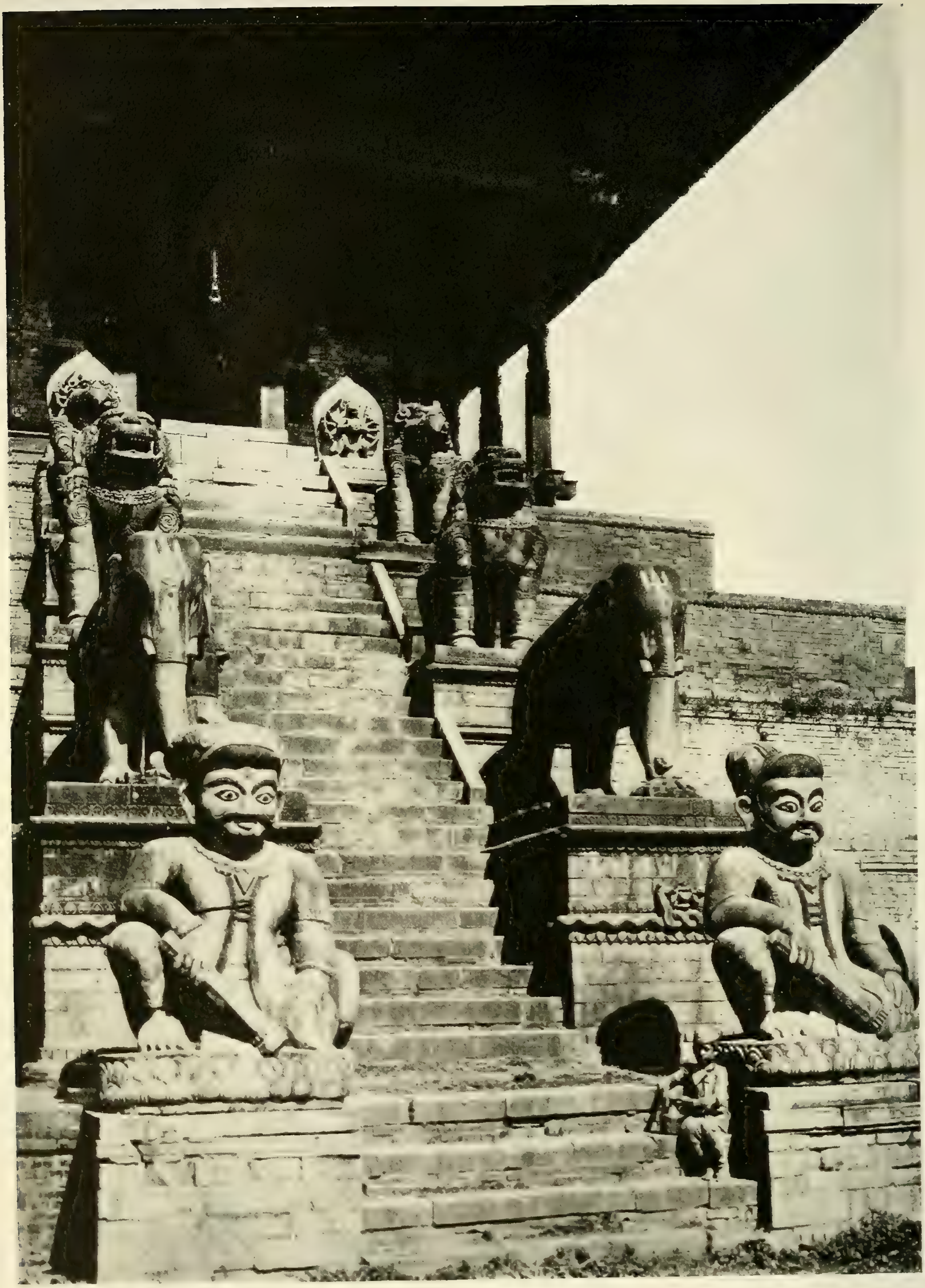


ART AND CHILDREN IN EVIDENCE EVEN IN THE MARKET-PLACE OF KHATMANDU

The prolific art of Nepal knows no conservation; it pervades the marts of trade as generally as it does temples and homes. This buoyant energy, further exemplified in the rapid increase of population—for a glance at this picture will show that race suicide is not a Nepalese problem—explains why Nepal natives seek an outlet along the foothills of Bhutan and into Assam.



EXAMPLE OF FINE CARVING IN WOOD AND STONE, SHOWING BRONZE "SINGIS," OR DOGS, GUARDING A TEMPLE GATE, PATAN



FIGURES AND STEPS LEADING TO THE TEMPLE OF THE FIVE HAGIS AT BHATGAON

On the lower steps are represented "The Wrestlers," the Samsons of Newar tradition, each supposed to possess ten times the strength of an ordinary man.

even to the present day, mere puppets in their ministers' hands. Most of them die suspiciously young and before they can take the reins of government into their own hands.

Internal intrigues and persistent hostility on the part of the Gurkhas toward the British Government continued till the year 1846, when Jung Bahadur, a remarkable man, became Prime Minister, a post he retained till his death, in 1877. During his tenure of office Nepal enjoyed comparative peace, and after his visit to England in 1850 the bearing of the Nepal Durbar became more friendly.

In 1854 the Nepalese again invaded Tibet, and shortly after a treaty was concluded by which the Tibetans agreed to pay Nepal an annual sum of R100,000 ($33,000), but hostilities in a minor degree were carried on till 1883.

At the time of the Indian Mutiny, in 1857, the Nepalese rendered great assistance to the British Government, and as a reward the whole of the territory in the Terai, forfeited in the war of 1814, was restored to them.

HUNTING GROUND FOR ROYALTY

In 1876 the Prince of Wales, afterward King Edward VII, visited the Nepal Terai on a shooting expedition and was entertained by Jung Bahadur's brother, General Dhir Shamshere Rana Bahadur.

After Jung Bahadur's death there were the usual successional intrigues, some peaceful and some accompanied by much bloodshed, till in 1901 General Chunder Shumsheer Jung Rana Bahadur was appointed Prime Minister. He visited India twice, England once, and was made Knight Grand Commander of the Star of India in 1905.

In 1904 the Nepal Durbar received the thanks of the Government of India for the correct and very friendly attitude adopted during the British Mission to Lhasa.

His Majesty the King Emperor visited the Nepal Terai on a shooting expedition in 1912, after the Delhi Durbar, and had excellent big-game shooting. Sumptuous camps were prepared and roads were made in all directions through the jungle.

Nepal maintains a well-drilled and efficient army of about 32,000 infantry and 2,500 artillery, with about 100 serviceable and 150 unserviceable guns. The Maharajah is not permitted to have any intercourse with Europeans, and should the Resident or any official have occasion to interview him it is always in the presence of some Nepalese official.

The Kingdom of Nepal is to be found between latitude 27° 30′ and 30° north and longitude 80° and 88° east. In the south it runs for some distance into the plains of India, along the Terai, or flat ground, at the foot of the hills, its area embracing about 54,000 square miles.

In consequence of Nepal's excessive seclusion, the internal administration has remained almost entirely unaffected by European influence or ideas.

VALLEY ONCE WAS LAKE

In the Valley of Khatmandu itself, called by the natives Nepal, and covering about 300 square miles, are situated the modern capital of Khatmandu and the old and much more picturesque capitals of Patan and Bhatgaon. At some time in the remote past this valley was a lake, and the erosion of the vast accumulation of water must eventually have cut for itself an outlet through the barrier of mountains to the south. Gradually there was left bare the rich alluvial deposit now drained by three rivers—the Baghmutti, Vishnumatti, and Manchera.

These rivers have cut deep channels, through which they make their way till, converging in a narrow gorge, they finally find their outlet to the plains of India as the Baghmutti.

This old lake bed forms an expanse of the most fertile soil, industriously cultivated from end to end, on which is grown a succession of many and varied crops throughout the year.

Old legends also hand down the tale that the valley was in early days filled with water, and attribute its drying up to the miraculous power of one Manju Sri, of whom it is related that he smote the mountain with his sword, thus making the cutting by which the lake was drained and the valley became fit for habitation.

The population of the valley is about 500,000, of which the town of Khatmandu contains 30,000.

HUMAN EMOTION RECORDED BY PHOTOGRAPHY

By Ralph A. Graves

When Shakespeare observed that "there's no art to find the mind's construction in the face," he had reference to that mind which employs artifice to conceal its motives and its machinations. In the accompanying studies in expression, however, the camera has been employed to record the facial play and byplay of those who have naught of their emotions to withhold from the world. Here the lens of the photographer has caught and preserved the fleeting joyous thought, the moment of tranquil reverie, the sorrow without shame, the eternity of oppressive suspense, the exuberant mirth of the carefree, the rollicking gayety of childhood, the eager earnestness of youth. All these moods and fancies the faces of normal men, women, and children reflect with unfailing faithfulness. Here one finds recorded in pictures the "geography of the human heart"—its cares, its longings, its foibles, and its aspirations.

It needs not the experience of a deep student of human nature to read in the face of the immigrant mother (Plate I) her story of struggle, of pain, and of sorrow in the Old Country. But, happily, in her pensive smile there is the suggestion of a brighter day to come in the hope of realized ambitions for her children, who are to be given an unhampered start in the New World; and it requires no wild stretch of the imagination to read on this mother's lips an echo of the words of a famous Roman matron, "These are *my* jewels."

The laughter of children is a universal language, as readily understood in Sweden (see Plate II) as on the lips of our own kith and kin in America (see Plate VI).

"The light of love and fainting faith" contend for supremacy in the faces of those mothers who stand and silently await the glimpse of loved ones immured behind hospital walls (Plate III).

It can never be said of the mother, sister, or wife who watched the solemn pageantry of military funerals during the World War that she was one of those who "never sees the stars shine through her cypress-trees"; for we see reflected in the face of each one so bereft that she is soothed and sustained by that consolation which crowns her grief, the consciousness of a loved one's noble sacrifice (Plate IV).

As we gaze upon the sweet content of the two faces on Plate V, we cannot but feel that the poet had in mind such as these when he wrote:

> "And as the evening twilight fades away,
> The sky is filled with stars invisible by day."

The venerable patriarch of Plate VII holds the even tenor of his way "through the sequester'd vale of rural life."

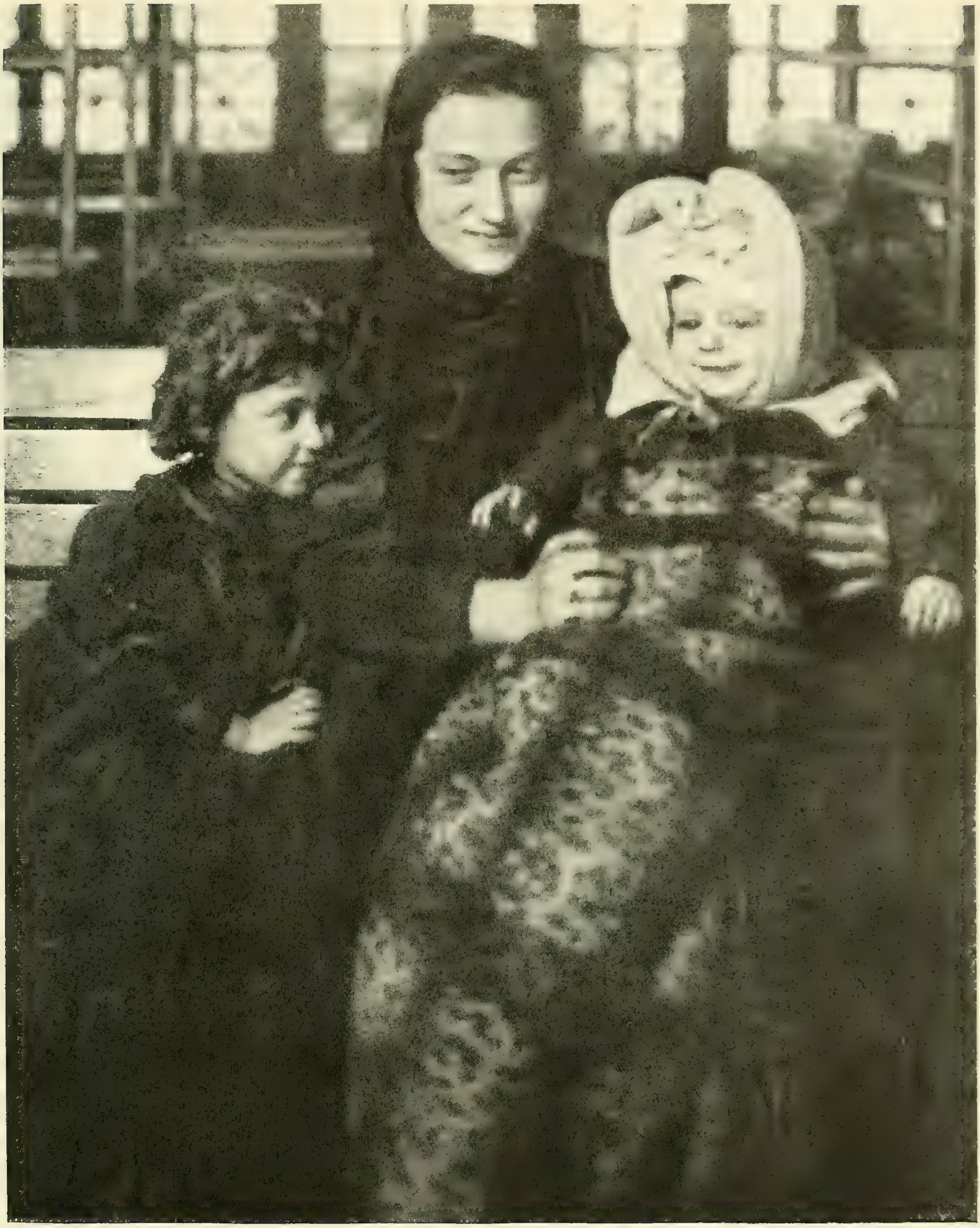
He who smiles first fights best would be a true paraphrase of a familiar saying, if facial expression is an index of stamina. And who can deny that it is, after studying the light which dances in the eyes of the men in khaki shown on Plate X?

A wise student of human nature once observed that in the shadow of a great affliction the soul sits dumb. How could this truth be illustrated more strikingly than in the faces of the loved ones who watch and wait for the victims to be brought from the horror chambers of a mine disaster?

That "health is the vital principle of bliss, and exercise of health" would seem to be the creed of the "Snow Birds" shown on Plate XII, while those two "studies in color" on Plates IX and XIII, may seem to indicate that a danger avoided is a danger scorned, and that "good digestion waits on appetite."

France and America contend for geniality in the facial expressions reproduced in Plates XIV and XV, while in the final scene of the series we see that

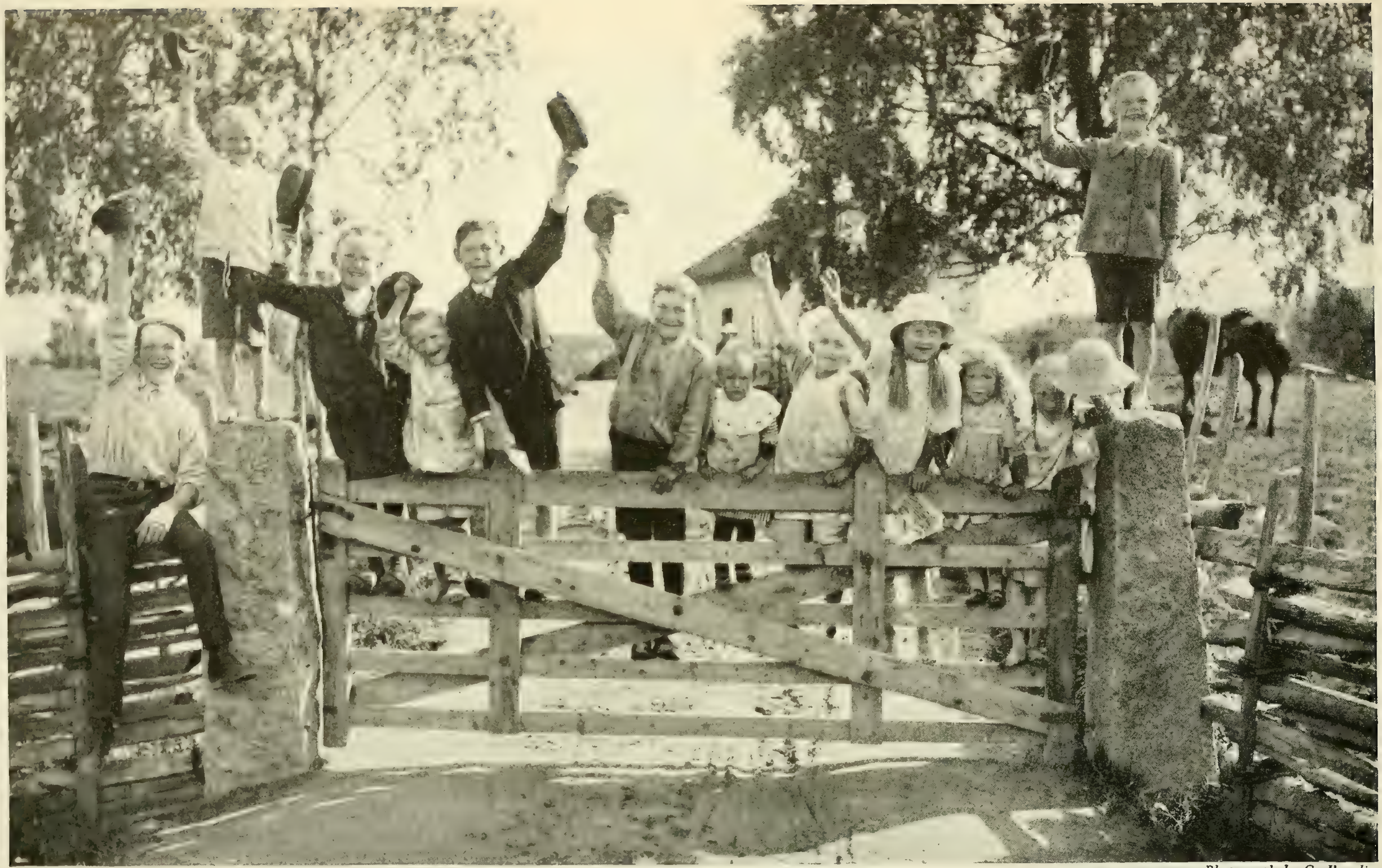
> "The world is all before them, where to choose
> Their place of rest, and Providence their guide."



Photograph by Lewis W. Hine

SMILES

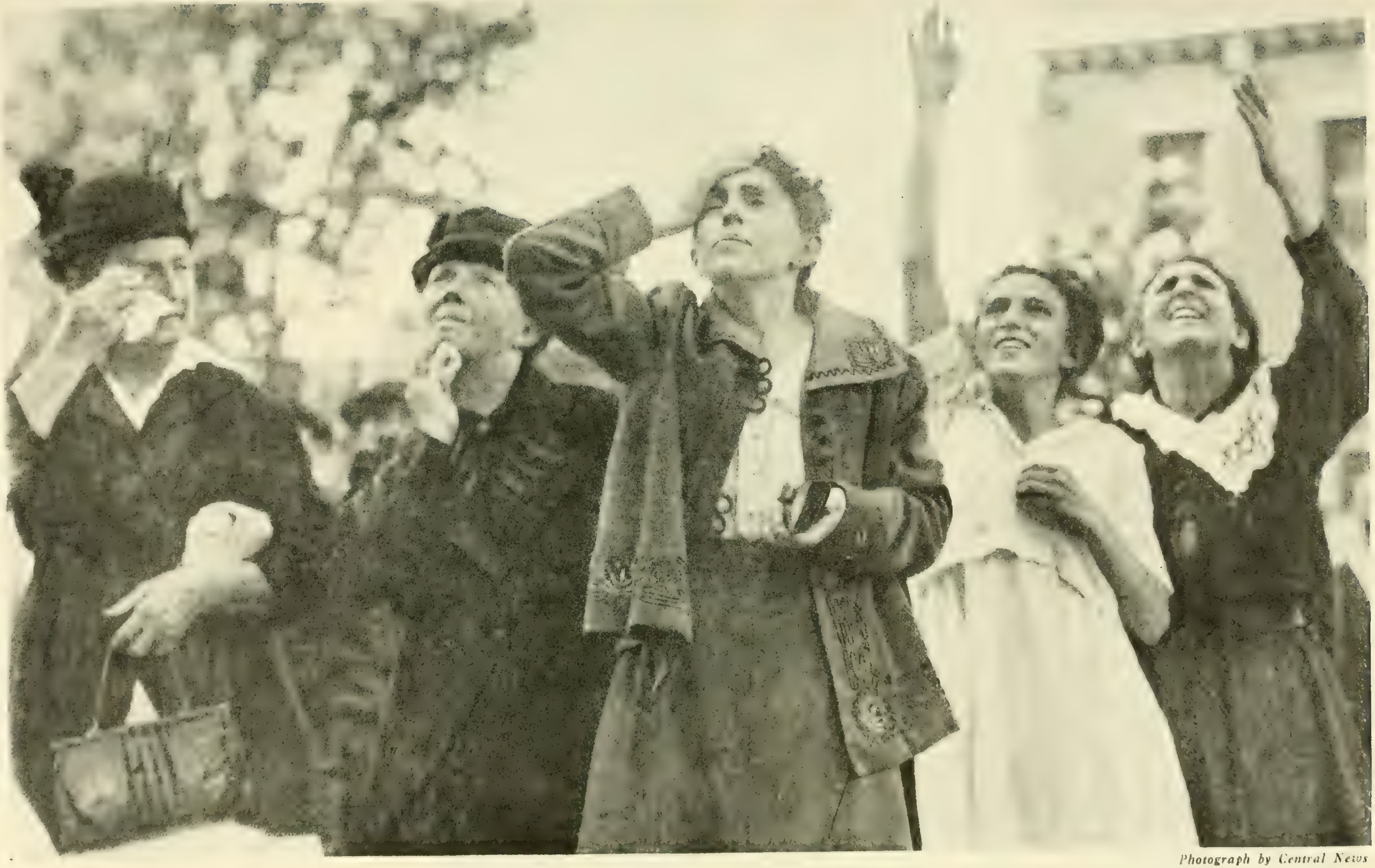
Here is the retrospective smile of the immigrant mother, waiting with her children at Ellis Island—a smile that suggests the elusive quality of Leonardo da Vinci's Mona Lisa del Giocondo, and typifies the mystery of that giant, enigmatic Russia from whence she came. Then there are the fresh, frank smiles of the children, eager and expectant for new experiences in the land of hope — America.



Photograph by G. Heurlin

THEY SPEAK A FOREIGN LANGUAGE, BUT THEIR FACIAL EXPRESSIONS NEED NO INTERPRETER

A passing American motorist could not understand a word these Swedish children said, but he caught their greetings on his camera plate. For facial expression is an Esperanto long since become universal, and joy, surprise, wonder, and curiosity, all registered here, look alike from Siberia to the Sahara.



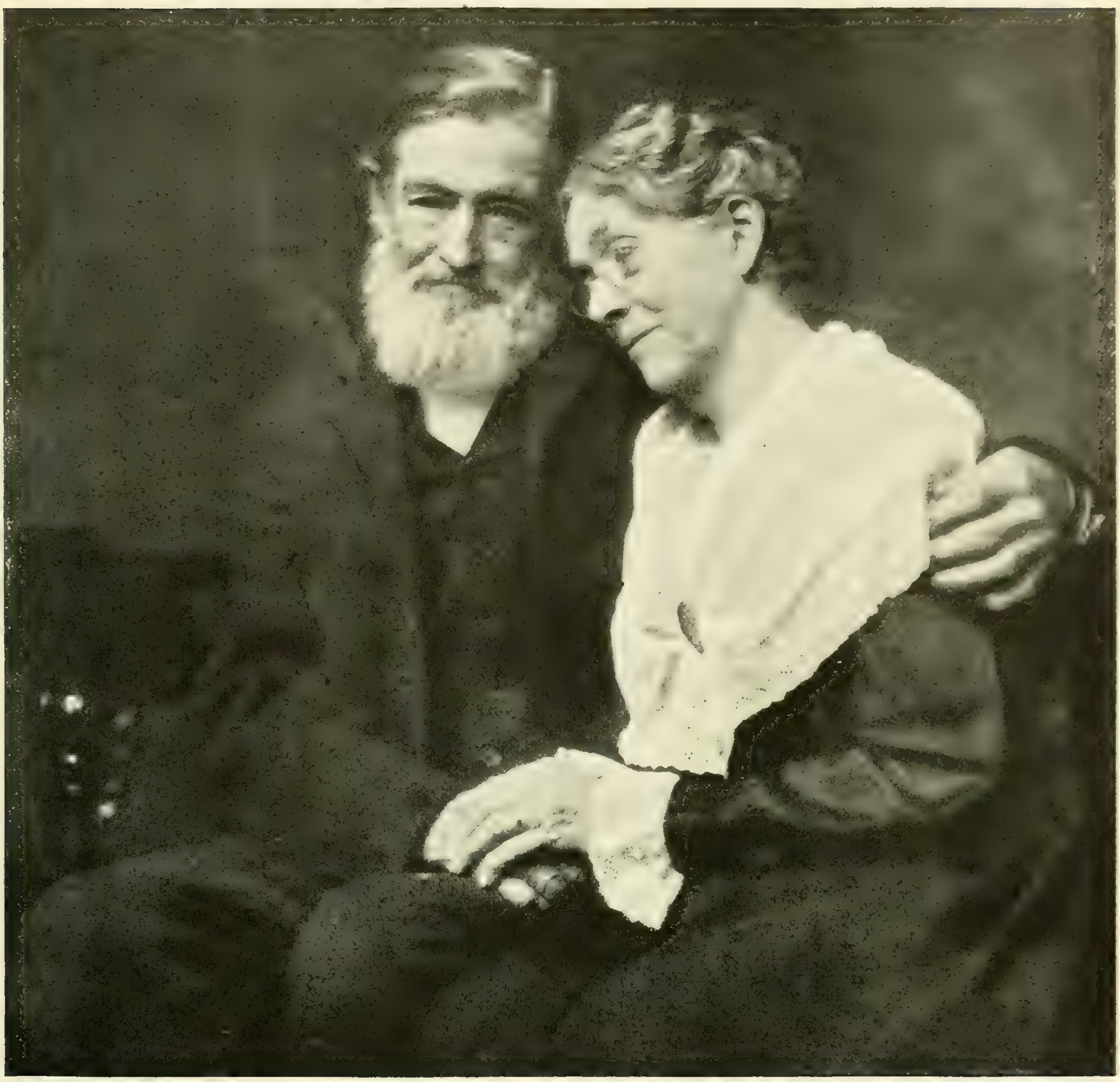
Photograph by Central News

MOTHER LOVE

Grief, anxiety, sudden shock and recognition are strikingly illustrated by these East Side mothers photographed as they stand unconscious of the camera below the windows of a children's hospital during an infantile paralysis epidemic.

© *Underwood & Underwood*

"Tell my sister not to weep for me,
and sob with drooping head,
When the troops are marching home again,
with glad and gallant tread,
But look upon them proudly,
with a calm and steadfast eye,
For her brother was a soldier too,
and not afraid to die."



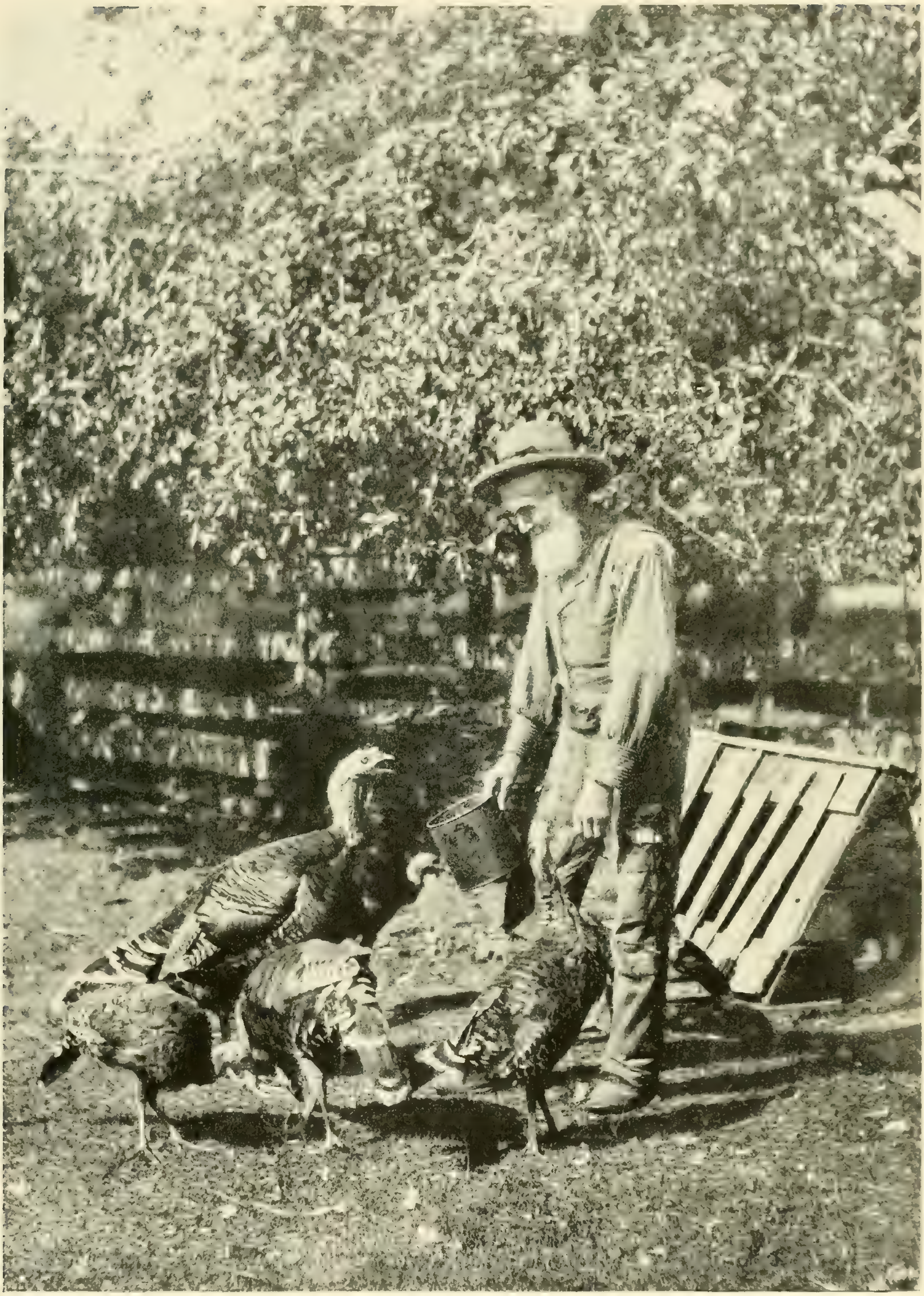
Photograph by Belle Johnson

John Anderson my jo, John,
  We clamb the hill thegither ;
And monie a canty day, John,
  We've had wi' ane anither :

"Now we maun totter down, John,
  And hand in hand we'll go
And sleep thegither at the foot,
  John Anderson my jo."

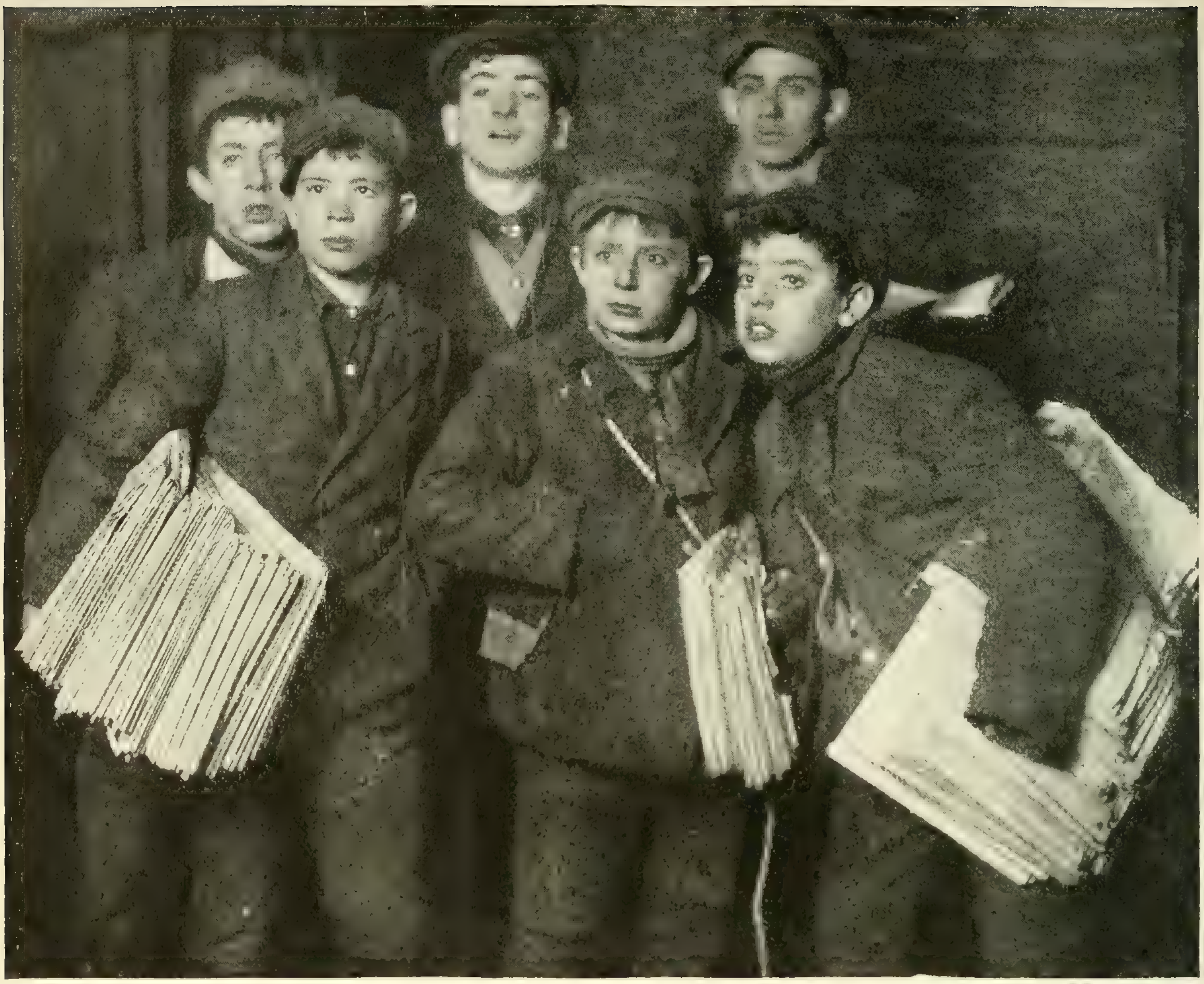
Photograph by Harry F. Blanchard

"THREE IS A CROWD"



Photograph by R. R. Sallows

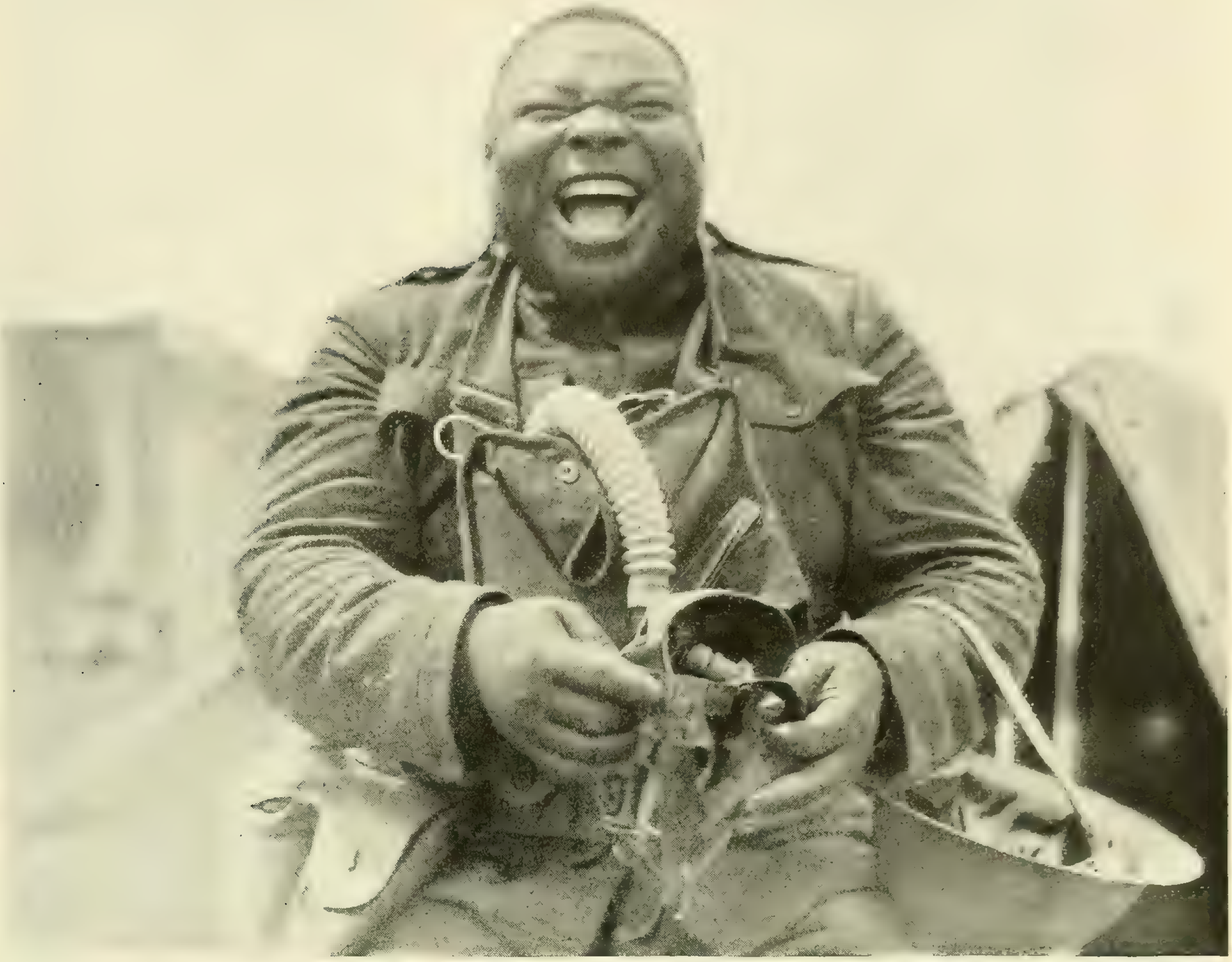
THE PATRIARCH OF THE FLOCK



Photograph by Lewis W. Hine

BIGGER THAN A "WUXTRY"!

In the cold gray dawn under the shadows of Brooklyn Bridge the newsboys, keen merchants of future years, have ceased their calls to give undivided attention to the passing fire apparatus as it clangs its way to an early morning blaze.



Photograph by U. S. Signal Corps

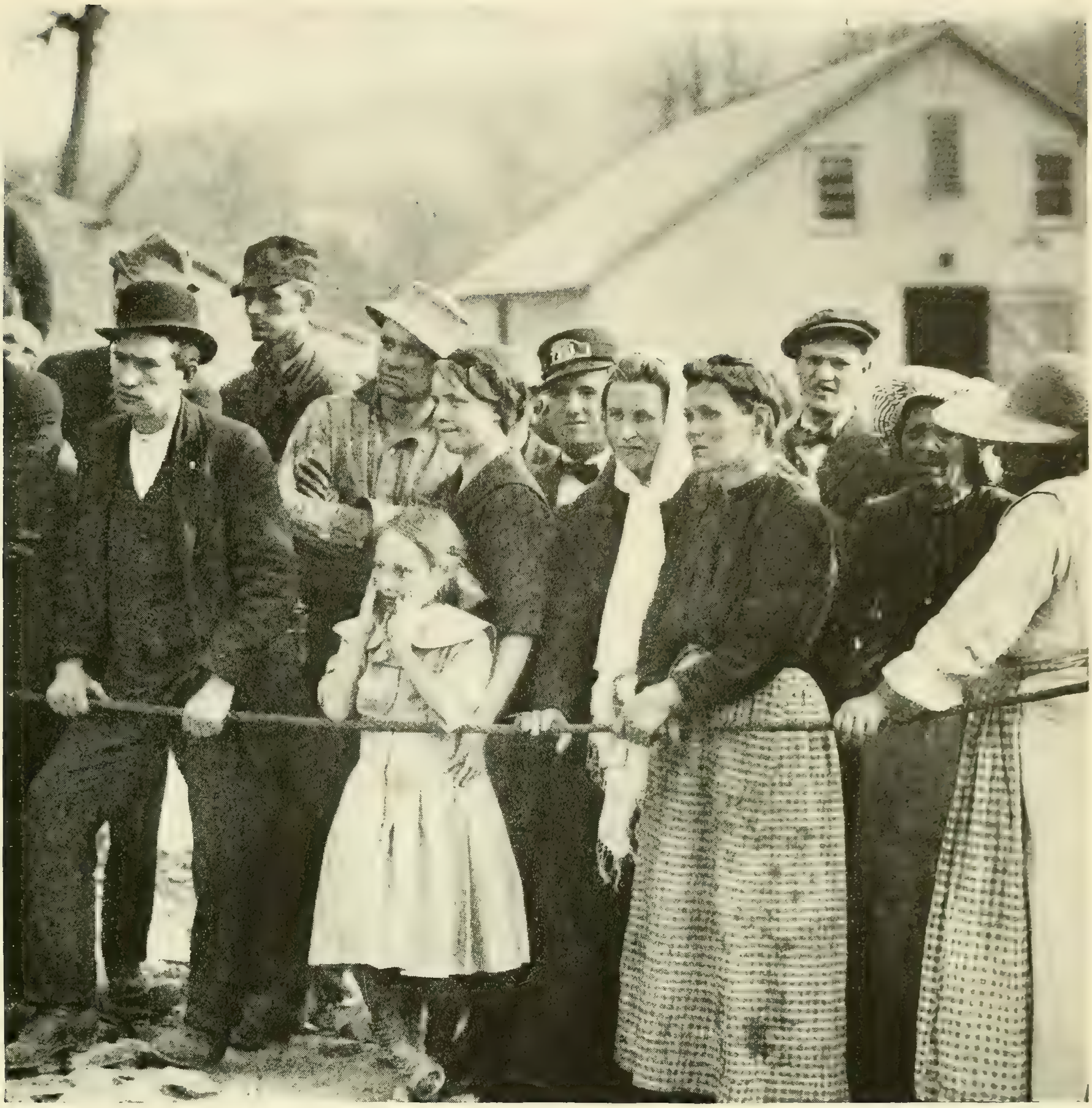
SAFELY THROUGH!

Phosgene missed him, but "laughing gas" found a willing victim. Relief is expressed in this "ivory" smile—relief in having escaped the enemy's poison and in taking off the contraption of science which saved his life but cramped his style.

Photograph by U. S. Signal Corps

"FIRST CLASS SERVICE!"

The pluck and unfailing good humor of the American soldier in foreign service made him admired by all allied nations; under the most adverse conditions the American was "Sitting on the Top of the World!"



Photograph by U. S. Bureau of Mines

SUSPENSE

Friends and families waiting at the mouth of a mine after an explosion. Fellow workmen are engaged in a feverish attempt to rescue the imprisoned miners, while the feelings of the waiting ones are mirrored in their faces.

Photograph by Ansel F. Hall

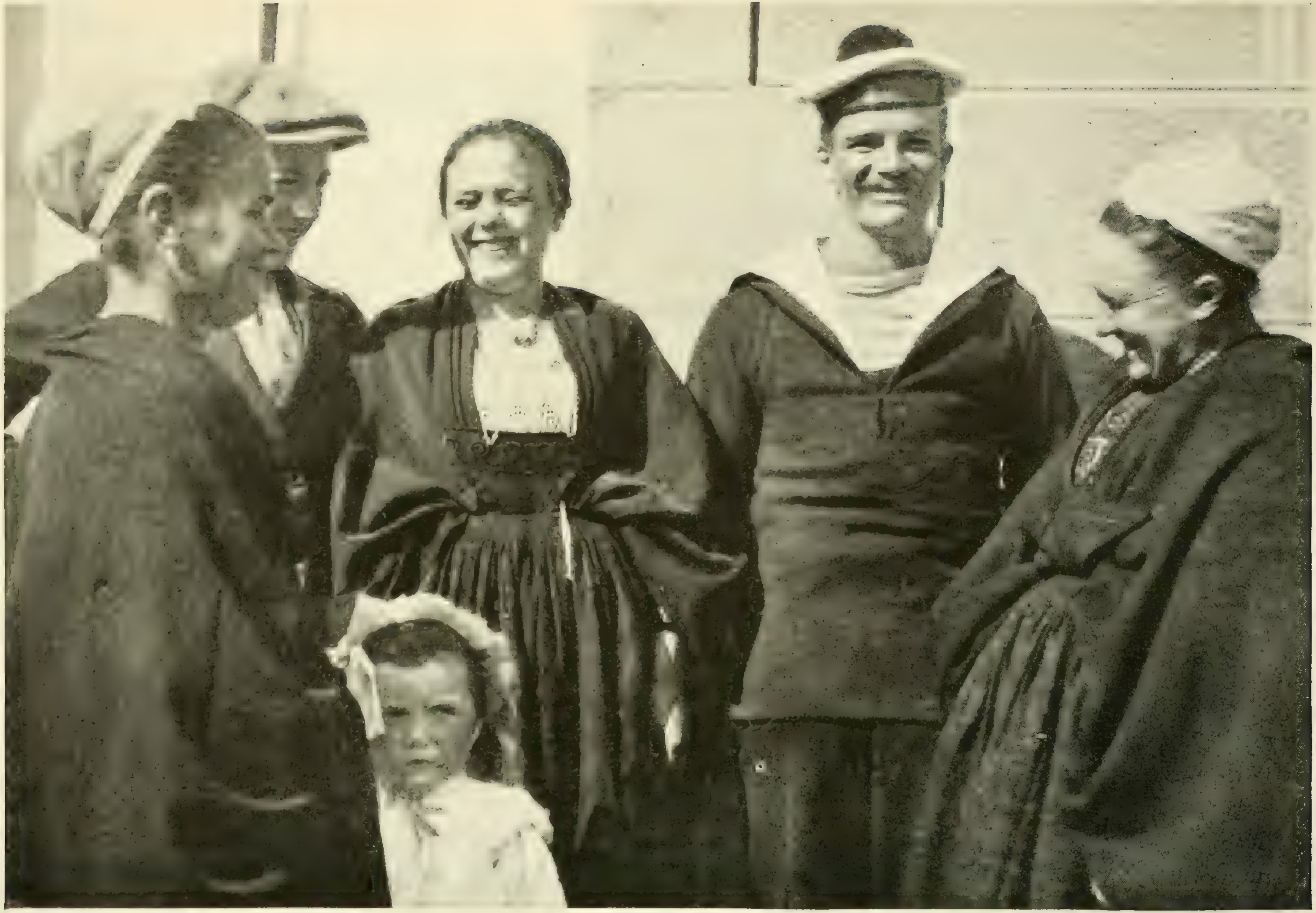
"SNOW BIRDS"

These Yosemite National Park Rangers, who almost alone are privileged to enjoy the wintry beauties of this great preserve, must have their fun, and this time it is posing for the photographer after a battle in the snow. Their faces register the full enjoyment of extreme good health.

Photograph by Belle Johnson

AN AFRICAN AFFINITY

"The only trouble about watermelon is that it gets in one's ears."



Photograph by C. A. Slade

MERRIMENT IN BRITTANY

The ladies laugh without restraint, but the stalwart sailor quietly and with proper regard for the dignity of the uniform. Perhaps, however, it's his own joke, and modesty forbids. The youngster has missed the point.

Photograph by John Oliver La Gorce

WHOPPERS!

The story of yesterday's catch is being vivaciously told to a deeply interested but slightly incredulous listener.

Photograph by Charlotte Fairchild

A LESSON IN GEOGRAPHY

TAHITI: A PLAYGROUND OF NATURE

By Paul Gooding

TAHITI lies far from the feverish activities of modern industrial life. It is more than 1,000 miles below the Equator, in longitude about 150 degrees west; 3,000 miles from Australia, 3,600 miles from San Francisco, 4,500 miles from the Panama Canal, 6,000 miles from Asia. By old trade routes—via the Suez Canal and Australia—it is nearly as far from New York as all these distances combined, but the Panama Canal reduces this to 6,500 nautical miles, thus effecting a saving of 10,000 miles.

Ever since its discovery by Wallis in 1767, the Otaheite of early exploration days—or King George the Third's Island, as this navigator called it—has been famed as an isolated jewel remarkable in contour, rich in verdure, blest with a pleasant, healthful climate, and inhabited by friendly people of handsome physique. The impressions of Wallis are those of Bougainville and Cook and their conceptions are, in the main, those of the average visitor of today.

Tahiti is an extraordinary work of creation—a jagged, fertile cinder from volcanic pits, perhaps, or a verdant fragment of a sunken continent. It is indeed a steepled gem of wondrous green within a teeming coral ring.

NATURE SPARED NO GIFTS IN ADORNING TAHITI

This captivating heart of Polynesia presents abundant evidence that in its adornment nature was in a liberal mood. Here the eye is delighted by leafy luxuriance stretching from palm-fringed beach to loftiest mountain crest; by the brilliant colors of land and sea; by the high physical standards of the natives, both men and women.

Here the ear is soothed by the wash of an inner sea; by the flow of gentle streams or of boisterous mountain torrents. Here the tired or distressed mind is composed and renewed by lasting quietude, and by the knowledge that madly competitive centers are far away.

Overshadowing all are the mountains. In every colossal pile there is distinctiveness. Here a mighty slab rises high above a valley; there a peak with a triangle summit shoots thousands of feet upward; beyond, lofty columns hundreds of feet in thickness stand in solitary grandeur; another turn and a shaft cuts the sky with an edge like an enormous knife—an edge to which tree, shrub, fern, and vine cling tenaciously.

As its indulgent climate might well suggest, Tahiti is an amiable country. Along all its shores one sees smiling, care-free faces, bright, liquid eyes expressing contentment and inviting confidence, and generous hands outstretched in welcome. Everywhere one hears musical voices carrying notes of kindness and sympathy; daily the visitor is gladdened by the gracious "Haere mai!" or the social "Iorana!"

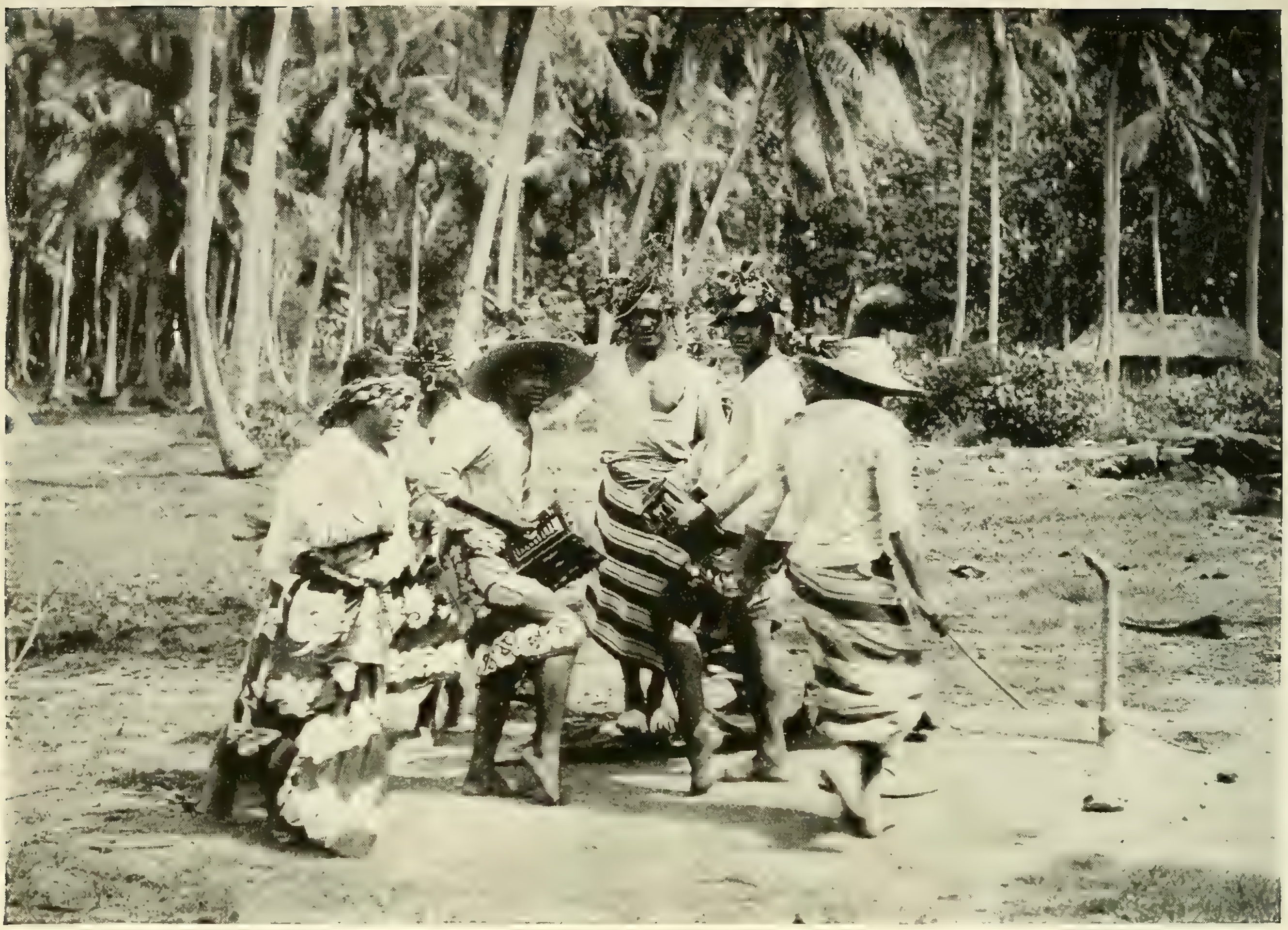
AN ISLAND OF PRIMITIVE BUT NOT BARBAROUS PEOPLE

Tahiti is not an abode of savages. It still has primitive life, but of barbarism it has none. There life and property are safe; compulsory education quickens the mind of the youthful; and the church, the vernacular religious press, and contact with the Caucasian broaden, in a limited way, the intellect of the adult.

I first saw the smiling Kingdom of Pomare in a timorous dawn soon to be emboldened by the streamers of a mountain-hidden sun. In waters placid and clear my steamer lay at anchor. Behind it long lines of milk-white surf lashed against coral barriers.

To my right and to my left strangely shaped mountains cleaved the sky, and in their dense wooded depths flitted fantastic outline of crag, peak, and precipice. On a coral-strewn shore tall palms flapped a lazy welcome. In the distance rose the green spires of La Diademe. Between them and the jutting reef, Papeete, drowsy capital and metropolis of Tahiti and its far-flung dependencies, gently rose and fell in a mirroring sea.

As we anchored inside the reef, the sun was on the point of surmounting its lofty obstruction. Shafts of gold shot over



Photograph by L. Gauthier

ONE POSTURE OF THE FAMOUS "UPA UPA" DANCE OF THE TAHITIANS

Note the musical instrument. Add to its drawl and to those weird contortions the effect of the droning "himinies," or folk-songs, which, like the dance, have varying effects upon the auditors. Some visitors report the monotones insufferably tedious; others have professed to find in the undertones, that give an effect like a bagpipe, a crude precursor of Wagnerian music. It is interesting to note that Tahiti parents do not permit their children to indulge in the dance until they have reached the age of eighteen or are married.

the island. Suddenly sunbeams bathed mountain summit and valley floor. The great Ra of the Polynesian was now well advanced on his daily march across the sky. In the solitudes of the interior, dark with luxuriant foliage, vapor shadows fantastically flitted about. In the burst of light I saw more clearly the strange features of rocky height, the palm-sheltered shores, and the secluded town beneath leafy sunshades.

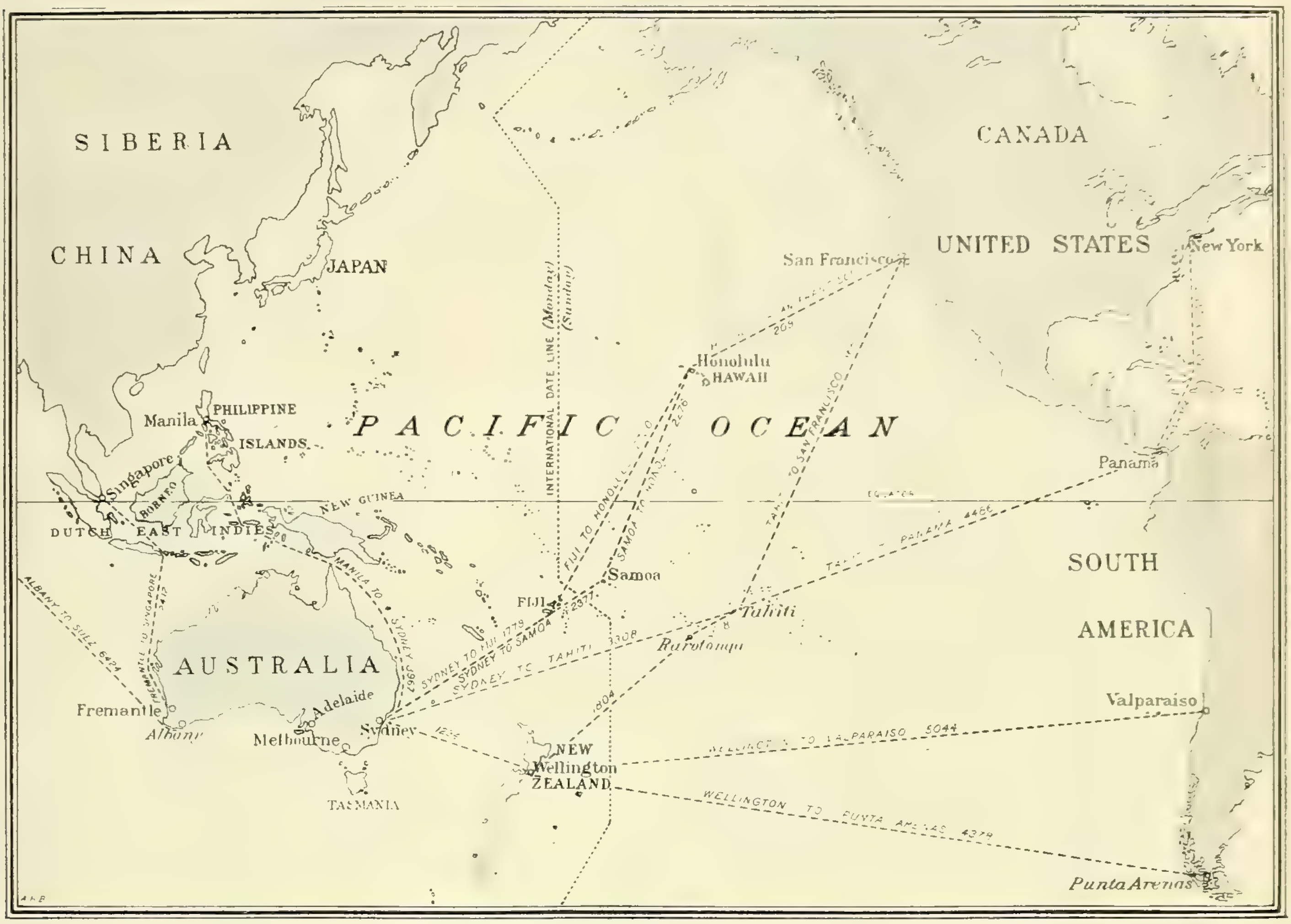
SUNRISE AT PAPEETE

Straight ahead was the long, high ridge of Aorai, culminating 7,000 feet above the tides. Standing at the head of the historic Fautaua Valley, it overlooked La Diademe and lesser heights and guarded a difficult entrance to the innermost recesses of the island.

To its right rose a great crown of nature's fashioning—La Diademe of the French, the Maiauo of the Tahitians. The loftiest of its jutting spurs, which fancy had sculptured into kingly insignia, towered 4,000 feet above the sea and seemed to be covered to its tip with vegetation. Between Aorai and the lengthy ridges to the right was a mighty gap. Through this the Fautaua River cut its way, spilling itself, six miles from the sea, in a cascade more than 600 feet high.

Somewhere beyond Aorai the still loftier Orohena lifted its steepled head. Its sheer walls had baffled all who had attempted to surmount them. Up to a certain distance human feet had trodden; above that only vegetation had found a resting place.

In the foreground, mirrored in a deep and clear harbor that swarmed with marine life of great variety and diversified



MAP SHOWING THE POSITION OF TAHITI IN THE MID-PACIFIC

The completion of the Panama Canal effected a saving of 10,000 miles in the sailing distance between New York and Tahiti.

color, ran a fringe of algaroba trees. Back of them were sequestered avenues of "flamboyant," tamarind, mango, and breadfruit. From these rose an occasional red tile roof, church spires, white flagstaffs, and tall coconut palms.

Sloping gradually from the town, evergreen hills, scarred here and there by barren red and gray clay, extended miles inland, where they overlooked the Fautaua and Punaruu valleys. They were broken into almost innumerable canyons and gullies all over their surface.

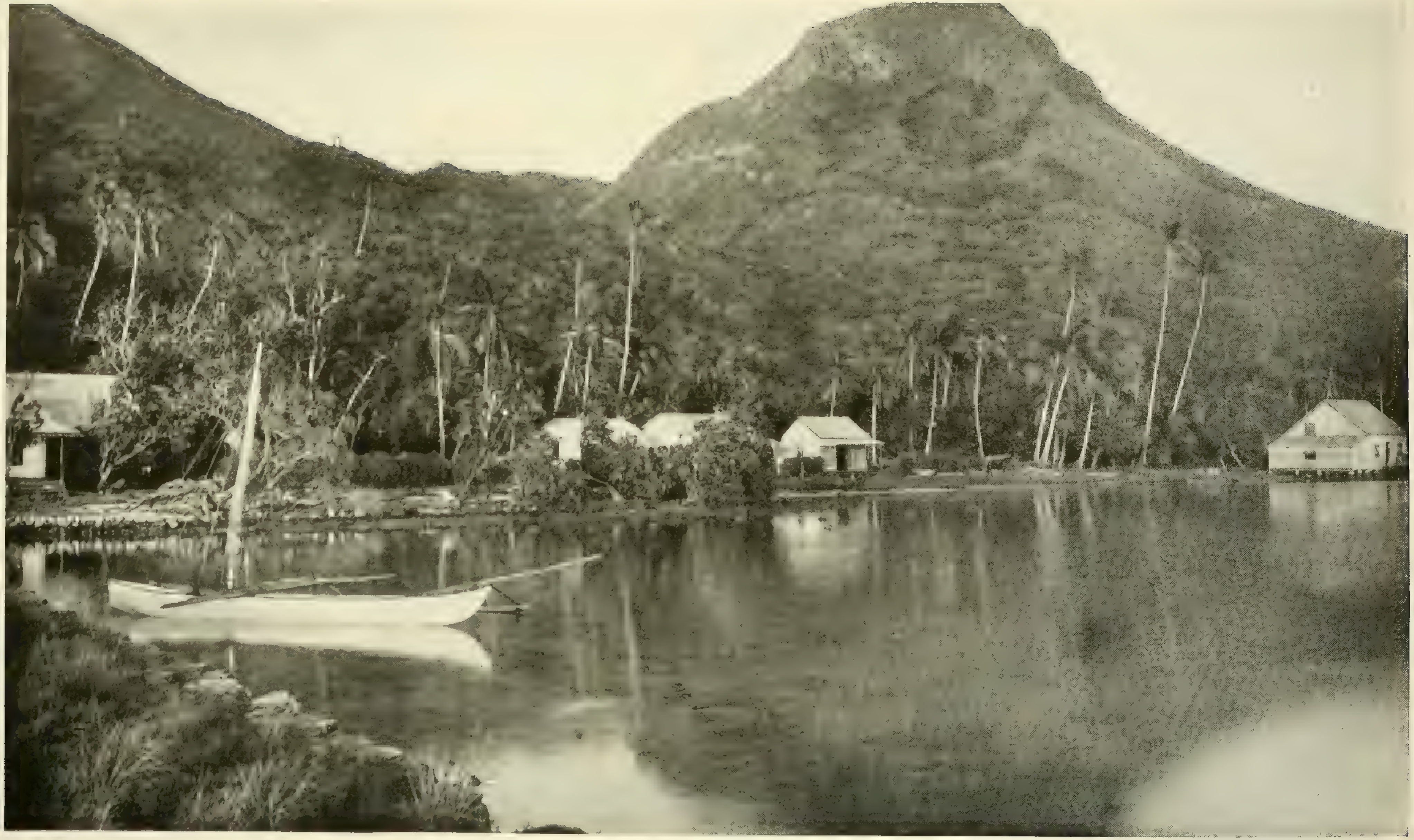
FEMININE CHARM IN TAHITI

As the steamer drew near the shore many small craft—the picturesque outrigger canoe, the broad-beamed fruit-boat, and the noisy gasoline schooner—lay at anchor or moved about the lake-like harbor.

At the copra-scented dock toward which we moved, hundreds of Tahitians and scattered pairs and groups of Americans and Europeans were on hand to meet us. It was a variegated throng. There were as many colors and shades of complexion as there were of dress, and some of the feminine possessors were beautifully proportioned and moved with queenly grace. Their dark hair, crowned in some cases with a wreath of the tiare, the flower of love and friendship, hung low on their backs. Their brilliant dark eyes sparkled with good will and merry resolution.

With orbs like these searching his own, no wonder Bougainville was moved to say of the daughters of Otaheite, "The boats were now crowded with women, whose beauty of face was equal to that of the ladies of Europe, and the symmetry of their forms much superior."

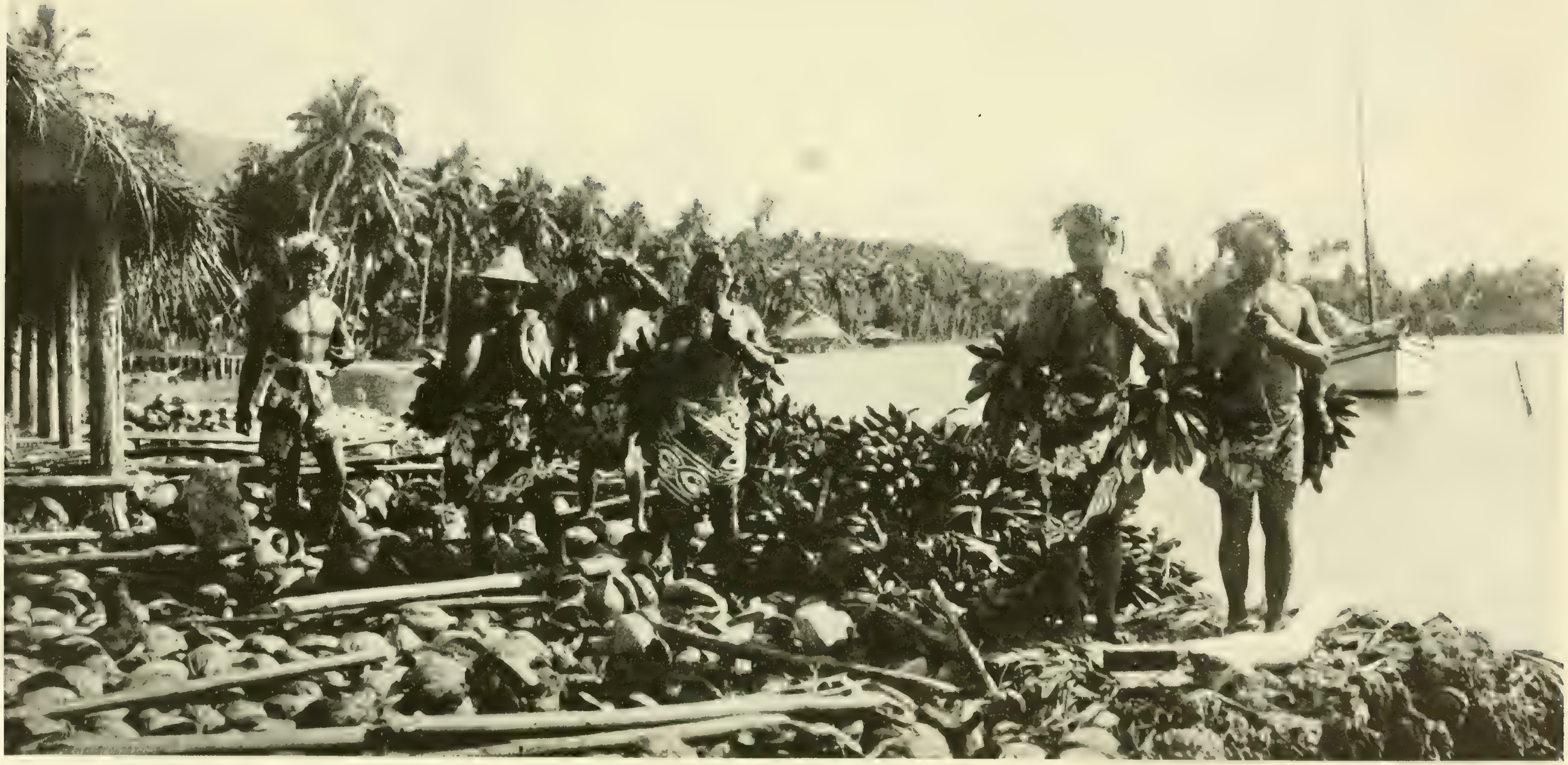
The native men at the dock were not so picturesque, collectively, as their brothers whom I afterward saw in the country. The dress of the majority was exceedingly prosaic. The average one among them believed himself to be sufficiently



Photograph by L. Gauthier

THE SACRED MOUNTAIN OF RAIATEA: TAHITI

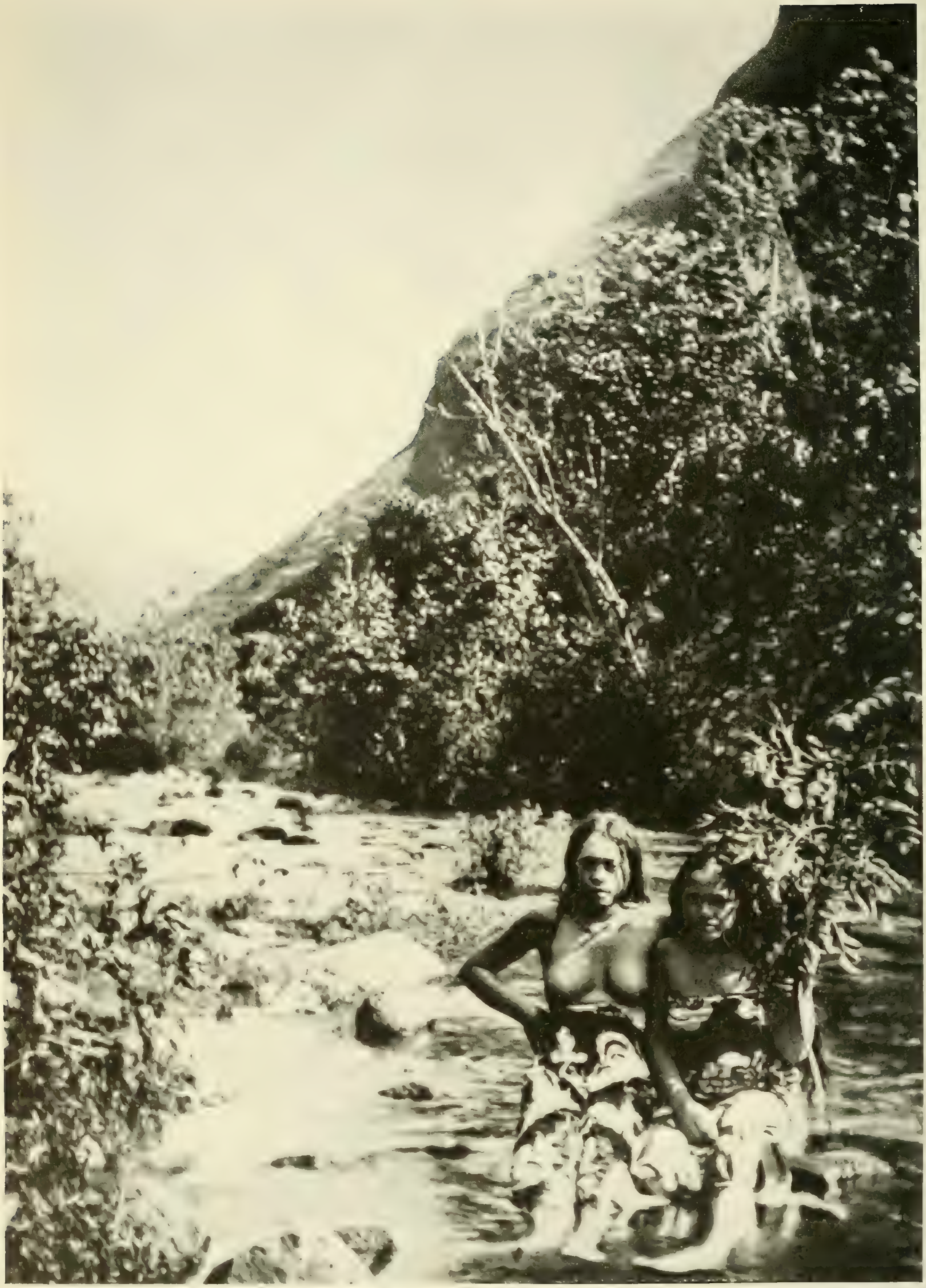
Mummies of departed kings and queens of Tahiti are deposited in mountains, which then are considered holy. This, one of the most imposing of these sacred mountains, is suggestive of an Alpine view.



Photograph from Dr. Theodore P. Cleveland

"TRADE" ON THE BEACH: SOCIETY ISLANDS

Here are shown two principal products and the freight-carriers of Tahiti. The coconuts are dried for copra; the mountain bananas (feis) form the staff of life for a large proportion of the natives. The burden-bearers protect their heads from the sun by circlets of leaves and flowers.



Photograph from Dr. Theodore P. Cleveland

SOCIETY ISLAND BELLES TAKING A FOOT BATH

In aquatic sports the Tahitians excel. When they are not swimming and diving they are apt to be found wading in a stream or lying on its banks with their feet dangling in its waters. The mother teaches her babe to swim as naturally, and about as soon, as she encourages it to walk. For these water exercises the natives prefer the inland streams to salt water, probably because the fresh water is cooler.

clad when wearing overalls and a light undershirt, except on Sundays and holidays. In town I saw only a few wearing the brightly colored kilt, the prevailing garment worn by Polynesian males living outside Papeete.

Since I was to remain in Tahiti several weeks, I joined with a Frenchman in renting a house that stood on an old French-Tahitian battleground. Our premises were almost surrounded by a mock coffee hedge, and here grew coffee, bananas, passion fruit, pineapples, tree melons, and other fruits, together with roses and cannas. Around us breadfruit and coconut palms hung heavily with food.

Our neighbors everywhere met us with friendly greetings, and inquisitive, bashful boys and girls peered at us through gate and window. Some of these people were musical. On the back doorstep of an adjoining yard a native woman nightly played "Swanee River" and other familiar compositions on an accordion, and near at hand a busy phonograph reminded us of home.

DANCE MUSIC SUPPLIED BY KEROSENE CAN

On our first night among these people we saw an exhibition of native dancing. In this more life was displayed in one minute by each participant than is usually shown by the ordinary islander in one day. The dance was interpreted by fourteen persons, only one of whom was a man. He provided rapid-fire "music" on a kerosene can, accompanying a brawny young woman, who manifested equal vigor and zeal on a similar vessel. The other members of the company were dancers, with the exception of a tall girl who stood between the drummers and was both director and assistant to the clamorous male.

On a platform in the rear of the hall a band of four pieces played frenzied music like that heard at Mexican bullfights.

The supple bodies of the dancers—clad chiefly in white, with a sash or a ribbon about the waist and a circle of blossoms or leaves on bare head—were automatons of vibration; the next instant they were masses of distorted limbs. Amid it all the sharp-eyed leader twisted and whirled, directing with short, loud cries as she urged or rebuked.

On the whole, the dance was far from graceful. The writhings were violent, and at times the movements of the hips attained the rapid tempo of the music.

EVERY ONE EXCEPT THE TOURIST RISES EARLY IN PAPEETE

On my first morning in Papeete I found that everybody there rises early except the tourist. The capital believes in making the most of the cool hours of the dawn. The market opens at 5.30, the shops remove their shutters thirty minutes later, and the laborer begins work at the same hour.

All this activity, however, is quiet bustle. The only noise is the rattle of lantern-lighted carts driven furiously by native Jehus. These men of the whip love speed, and they insist on getting it, even though the horse they drive looks like a cadaver.

At 11 o'clock, and in some cases an hour sooner, Papeete pauses to take a siesta of an hour or two. During this period all places of business are closed, barring Chinese shops, which keep open uninterruptedly until bedtime.

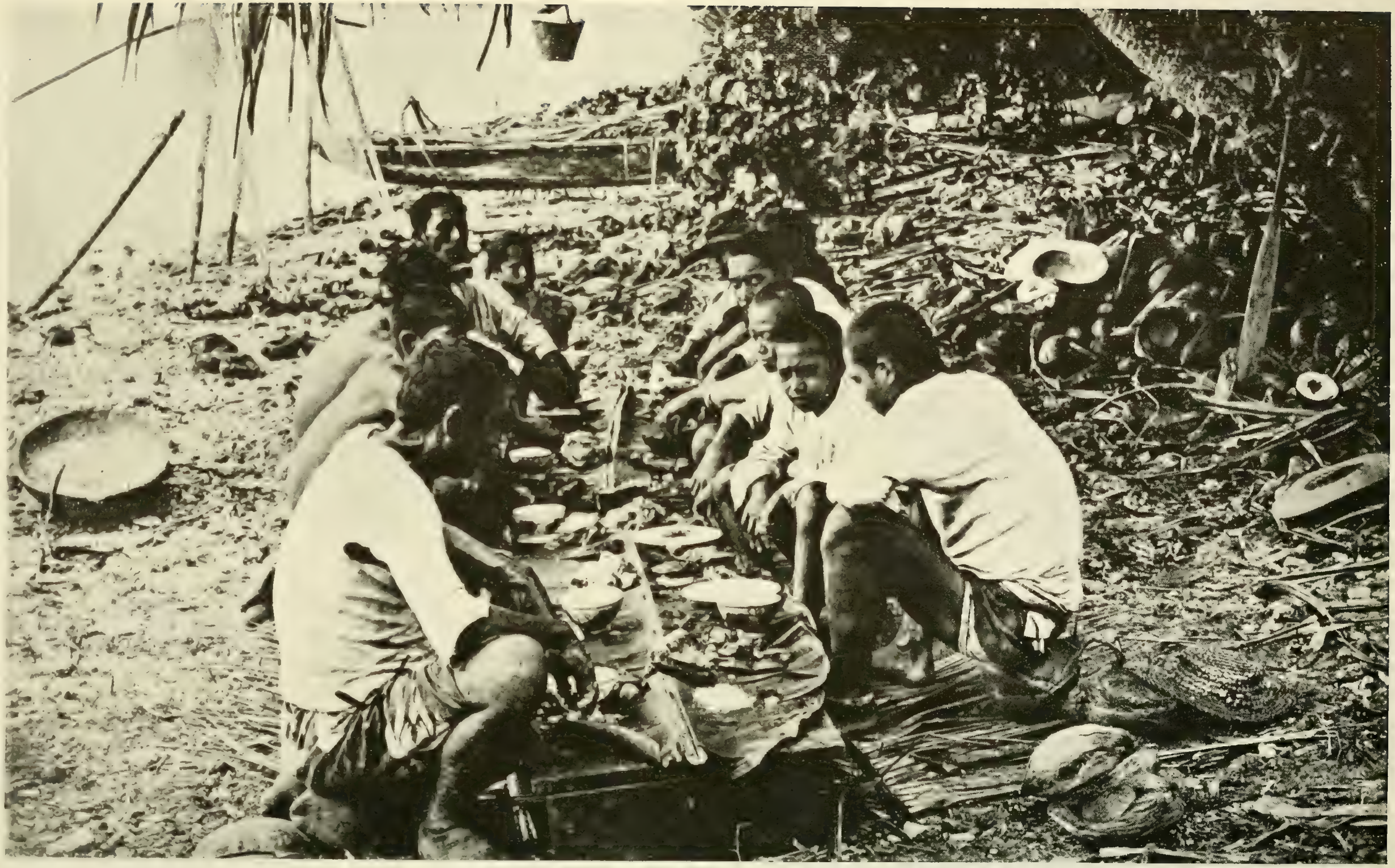
The most animated moment of the town's daily life begins shortly after its 5,000 inhabitants awaken. The site of this activity is the market square. Sunday is the chief market day of the week. At that time neatly dressed men and women from many parts of Tahiti assemble at the market half an hour before the opening bell clangs its signal.

On the previous day and night, boatloads of feis (plantains) and oranges are laid outside the market building in preparation for the morning rush, and in the Sabbath dawn strings of fish and wagons filled with soil products are hurried to the victualers' stands.

RAPID BUYING IS THE PRACTICE

The scene is enlivening; the crowd is friendly and gay. There meet comrades and relatives who have long been separated; there white and brown elbow each other in neighborly fashion.

Within thirty minutes after the first



Photograph from Dr. Theodore P. Cleveland

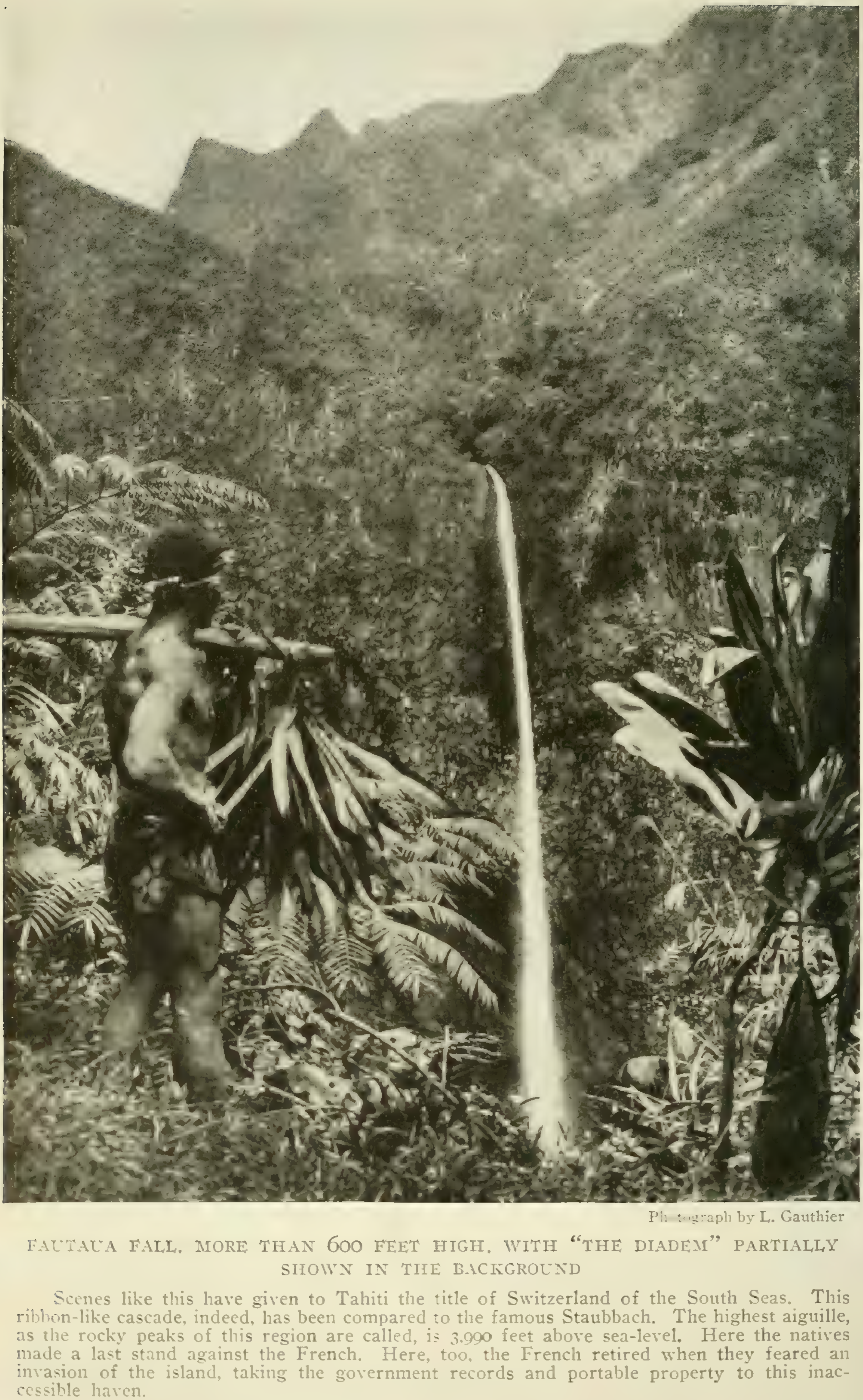
DINNER TIME IN TAHITI

The native table-cloth is banana leaf. The bowls and plates denote extreme formality. Tahitian food is prepared in a sort of "fireless cooker"—in holes in the ground. Stones first are placed in these holes and a bonfire is built on top of them; then the burning debris is removed and the food to be cooked is placed on the stones.

Photograph by L. Gauthier, © Paul Gooding

MOUTH OF THE VAITAPIHA RIVER, WITHIN A FEW RODS OF WHERE STEVENSON LIVED FOR SEVERAL WEEKS: TAHITI

It was at Tautira, in this vicinity, that Stevenson received the inspiration for "The Song of Rahéro: A Legend of Tahiti," based on an historic incident in the career of the Tevas, the Yaquis of Tahiti in the days of its independence. The rivers of Tahiti have a peculiar beauty because their narrow courses frequently are bowered with the riotous verdure of the banks and their broader expanses usually disclose a mountain background.



Photograph by L. Gauthier

FAUTAUA FALL, MORE THAN 600 FEET HIGH, WITH "THE DIADEM" PARTIALLY SHOWN IN THE BACKGROUND

Scenes like this have given to Tahiti the title of Switzerland of the South Seas. This ribbon-like cascade, indeed, has been compared to the famous Staubbach. The highest aiguille, as the rocky peaks of this region are called, is 3,990 feet above sea-level. Here the natives made a last stand against the French. Here, too, the French retired when they feared an invasion of the island, taking the government records and portable property to this inaccessible haven.

customer is served the fish; benches are stripped, and the butchers, bakers, and vegetable men have parted with more than half their stock. In an hour the market is almost deserted.

The buyers have a great variety to select from, there being, as a rule, from fifteen to twenty kinds of fruit, greens, and tubers, and a dozen sorts of fish, much of which is offered in palm-leaf baskets. Mingled with bananas, coconuts, pineapples, tree-melons, alligator-pears, oranges, and limes are gigantic yams, clusters of breadfruit, and piles of taro stacked like soldiers' arms.

THE KILT IS UNIVERSALLY POPULAR

The market square is an excellent place to study Tahitian dress. Of present-day attire there is everything, from the kilt to creased trousers, flashy hose, and flaring waistcoats. In this island fashion usually has few moods; wherefore, in every hamlet are the kilt and the "Mother Hubbard." In the country the first is so well liked that a large number of women spread it over or under their dresses, and men who spend a day away from home in European garb don the prized cloth of red, blue, or yellow as soon as they rejoin their families. Often it and a shirt are worn together. Sometimes the latter is tucked, but more often it is not; and though it may reach well below the knee, like a nightgown, it is just as probable, if the wearer be a boy, that it will barely touch the hips.

The most enjoyable way to see Tahiti is to journey entirely around it. The usual way of encircling it is by carriage or automobile, except at the peninsula's end, where a canoe is necessary. I obtained a guide, Tairua, and walked practically all of the 120 miles.

We began our travels together one pleasant morning, with the home of my guide's father-in-law, in the Papara district, as our day's goal.

Tairua wore a European suit and carried on a stick slung across his shoulder a bundle of clothing wrapped in a kilt. As we were leaving Papeete, he yielded to his love for music by stopping at a Chinese store and buying a harmonica. This he played at intervals all day. His tribute to Apollo illustrated a national trait, for all Tahitians love music. They delight in singing, and from ancient days have drawn sounds from crude bamboo and wooden instruments. Once, as in Hawaii, they even employed the nose to please the ear, the medium in that case being a flute. Sometimes the performer was accompanied with songs, but there seemed to be only one tune, a singularity that obtains to a large extent today.

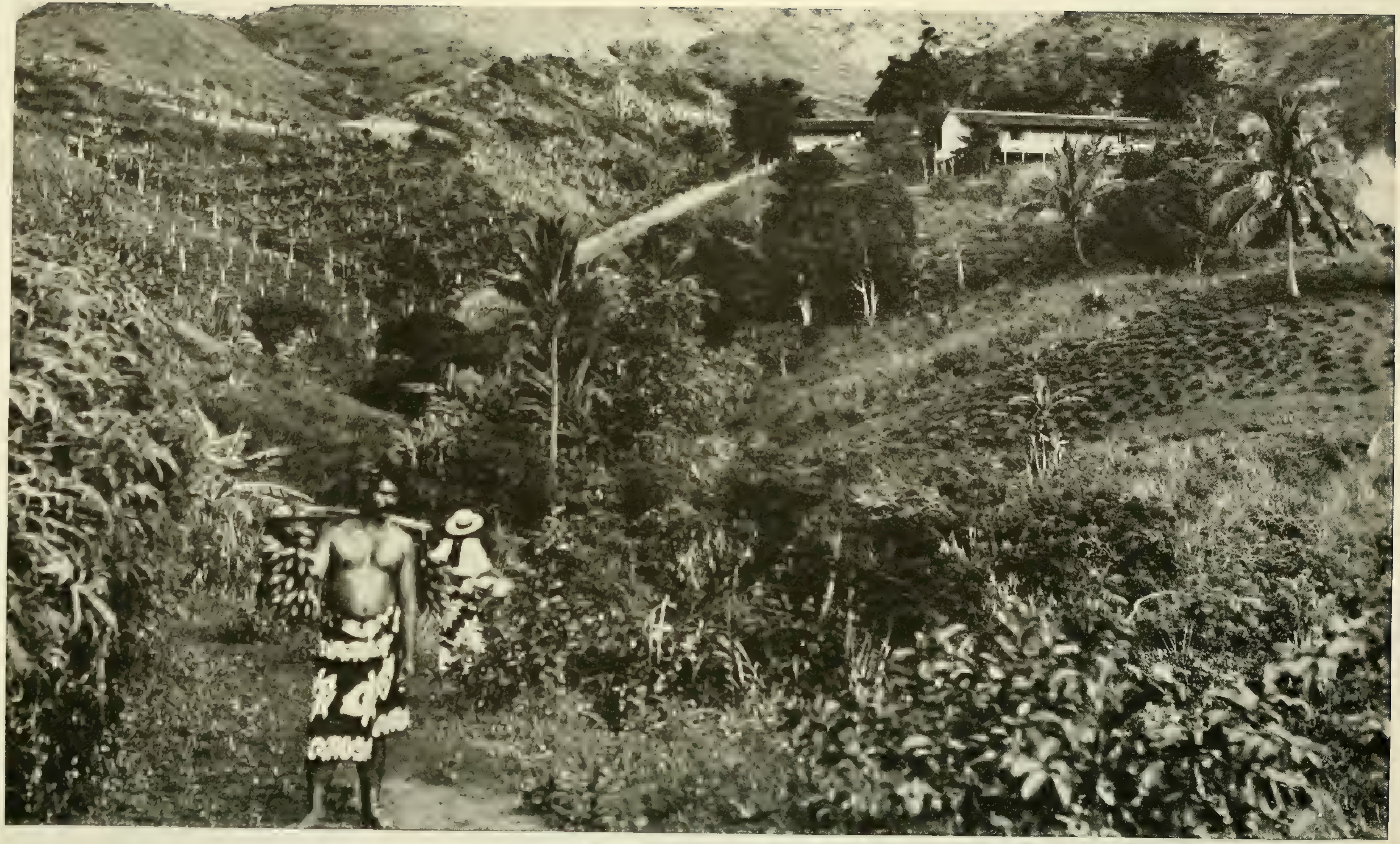
The favorite instruments now are the accordion, harmonica, and jews'-harp. I saw the first in all parts of the island. In Papeete I frequently saw groups of young persons of both sexes squatting on lawn or street, wreathed with flowers and accompanying an accordion with voice or limb. The harmonica is highly valued by the jovial bands that gather around the rum bottles in saloons, where its strains, combined with the excitation resulting from the liquor, arouse the intemperate circle to wild enthusiasm and boisterous chorus.

Our way lay between coconut groves and banana fields; beside coral-littered beach; in the shade of the flowering purau (wild hibiscus), and past the lowly sensitive plant.

In alarm at our tread, hundreds of land-crabs ran in ungainly fashion to their holes, some raising militant claws, others bending all their energies toward flight. Under our feet tiny ants foraged; in the shallows of the sea the blue otuu fished for its breakfast; farther out brown fishermen poised pronged spears from reef or boat; to the right and to the left the leisurely inmates of thatched homes prepared their breakfasts or sauntered about with an air of luxurious ease. Both young and old among them saluted us with the national "Iorana!" and the curious stared at us with questioning eyes.

SIGHTS TO GLADDEN THE EYE

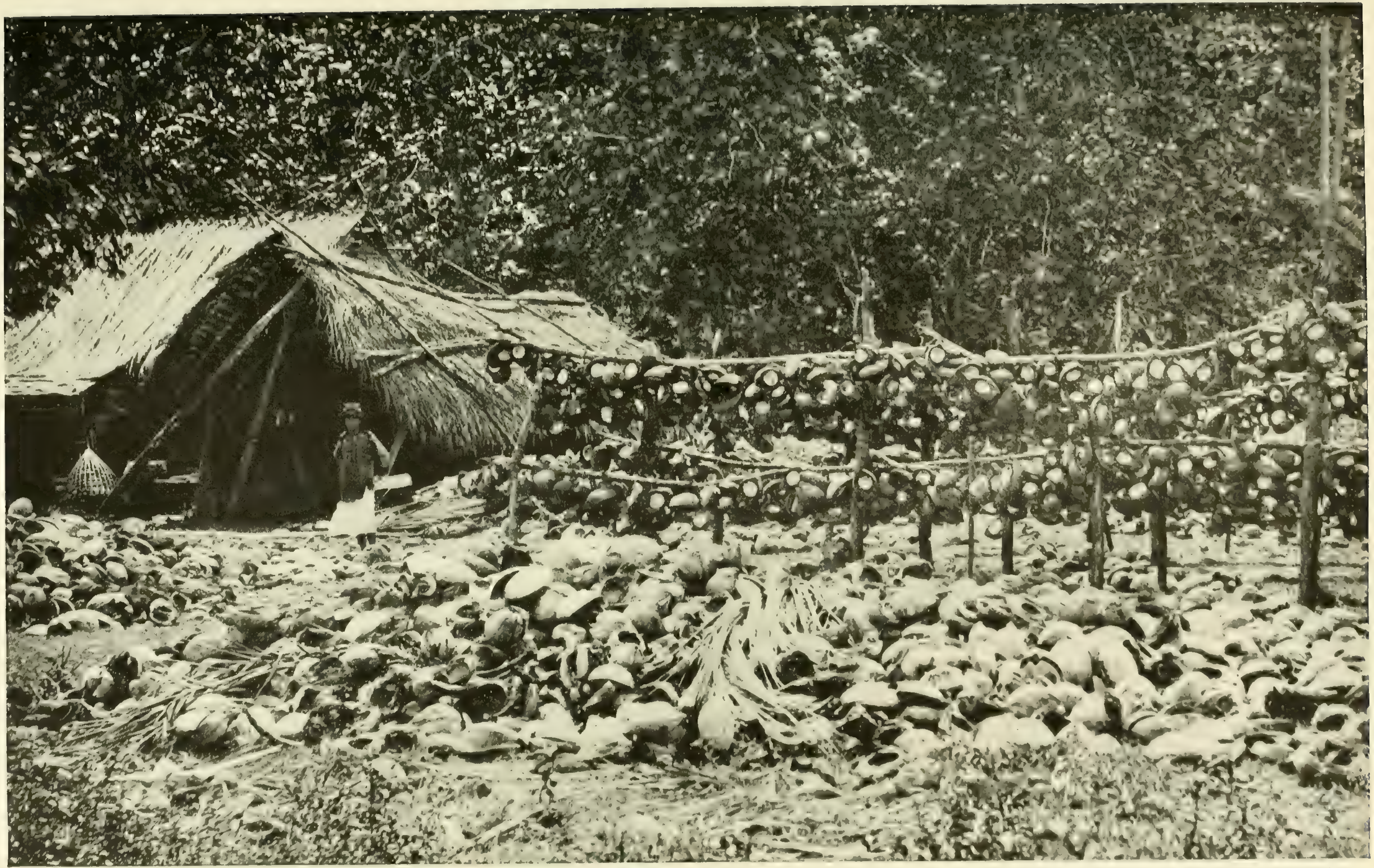
As we walked, there was much to see. One moment it was the curling surf thundering on the reef, or an inspiring view of the toothed island of Moorea; again it was flower and tree—the pandanus, the medicinal miro, or the dye-producing eufa. On every hand the breadfruit shared yard and roadside with the prolific mango; over wave-washed shore and high on breezy hill leaned the nut-



Photograph by L. Gauthier

ST. AMELIE VALLEY: TAHITI

In this beautiful vale is the French powder magazine, and patches of green guinea-grass about it are pasturage places for the cavalry horses; A signal station and a battery of French guns are on the hills beyond. Forty or fifty pounds is no uncommon weight for a bunch of the feis, or mountain bananas, which the native in front is carrying. Small wonder that his shoulders and feet grow hard and callous from his occupation.



Photograph from Dr. Theodore P. Cleveland

THE MAKING OF COPRA IN THE SOCIETY ISLANDS

Great quantities of coconuts are grown in Tahiti for export in the form of copra. After a thorough evaporation the meat of the nut is removed and from it oil is extracted. Copra-making has largely supplanted an older industry, that of vanilla-growing.

Photograph by L. Gauthier

SUNSET IN TAHITI

borne palm; and afar, on mountain slope, branched the glossy fei.

After sundown we experienced one of the greatest pleasures of the tropics—travel by moonlight. When the elements of the air are in a placid mood, an evening stroll is a delight. Waving palms and gently sighing wind, roar of surf on distant reef, and ceaseless wash of tide, combined with pictures of contentment and hospitable greetings of young and old from roadside and dooryard, produce sensations foreign to the most radiant day.

A NIGHT IN A NATIVE HOME

At such a time Tairua reached the home of Matariro. Both the latter and his wife saluted my guide with kisses, and then the whole family sat on the veranda while the long-absent son told of his wanderings in alien lands. I was given the choice of two beds and invited to retire when I pleased. My bed was a comfortable, ample couch, such as I saw afterward throughout frequented parts of Tahiti.

Matariro's home was a one-story, unpainted wooden structure with a balustraded porch. The floor and walls were bare, and the whole was roofed with galvanized-iron sheeting, the usual covering for wooden buildings in the South Pacific.

Until the French occupied Tahiti its people were content to live in bamboo houses with roofs of thatched pandanus or coconut branches, or in dwellings constructed wholly of the two latter materials. The primeval style of habitation is still the more popular with the majority, but in Papeete modernity prevails. In the country, too, in addition to the all-board house, there is a growing fondness for attractive combinations of reed, bamboo, and lumber.

Some of the native owners of homes of European design prefer to live in a primitive structure in the rear and maintain the new domicile chiefly as a mark of respectability and affluence.

CHINESE STORES ALWAYS MARK THE VILLAGE SQUARE

Matariro's residence was within a few kilometers of the straggling village of Papara. Like all other Tahitian villages, it had only one street, and that was part of the island's main highway. On each side of this was an irregular row of houses, the best one belonging to the district chief, in this case Tati Salmon, who is mentioned by Stevenson.

In my tramps in Tahiti I never knew when I had crossed what might properly be called the line between village and plantation. But practically every village center was marked by a group of two or three smoky-looking Chinese stores. Wherever they stood, there was the village square, where the gossipers gathered and, in the harvesting season, the perfume of vanilla beans drying on canvas spread before the open doors, made the place fragrant.

There the native exchanged his coconuts and scented pods for bread and brown sugar and American canned salmon or New Zealand canned butter and beef, and there the traveler was refreshed by coffee or tea, figure-eight doughnuts, and twisted roll.

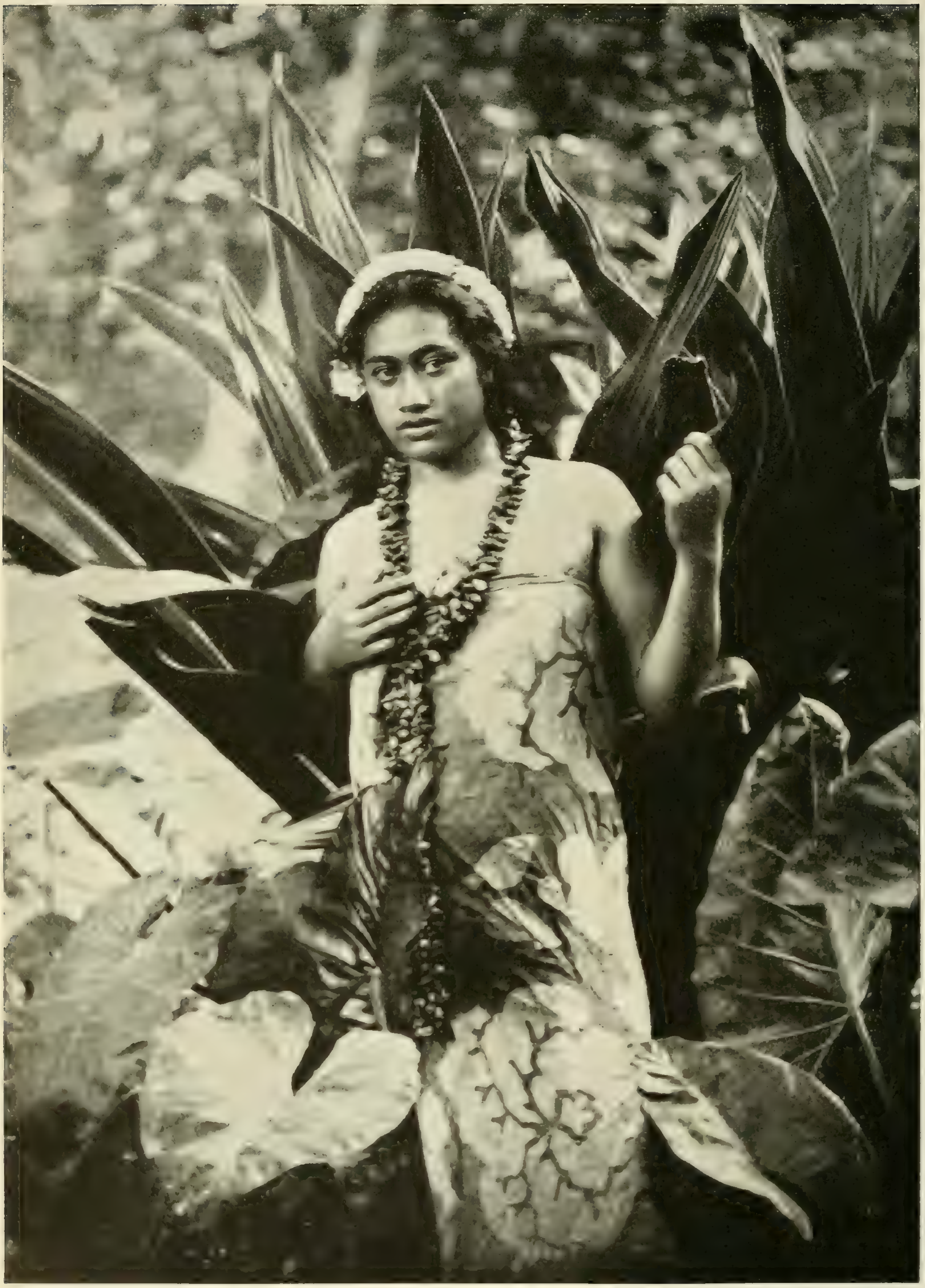
THE DAILY MENU IN THE TAHITI HOUSEHOLD

In Polynesia hospitality exhibits itself in many novel ways. In Tahiti, for example, the host sometimes spreads a new tablecloth at every meal. When a housewife wants to grace the family board, she goes into the yard and gathers for that purpose a banana branch or a few hibiscus leaves.

When I was called to breakfast at Matariro's I greeted a half dozen persons squatting before a banana leaf on the floor of the back veranda. I was given a small table to myself. As I had said I did not care for coffee, I was served with orange tea and coconut milk. The first was brewed from the leaves of the wild orange tree, and made a pleasant drink. Like the coffee, it was prepared in a palm-thatched kitchen without walls and was served in a bowl.

In common with all Tahitians, my hosts were very fond of coffee and they always had it for breakfast. With it they ate unbuttered bread.

The islanders were taught to eat bread by the Chinese, and so wherever it is possible for a baker's cart to go, coffee and rolls form the morning's refresh-



Photograph from Paul Gooding

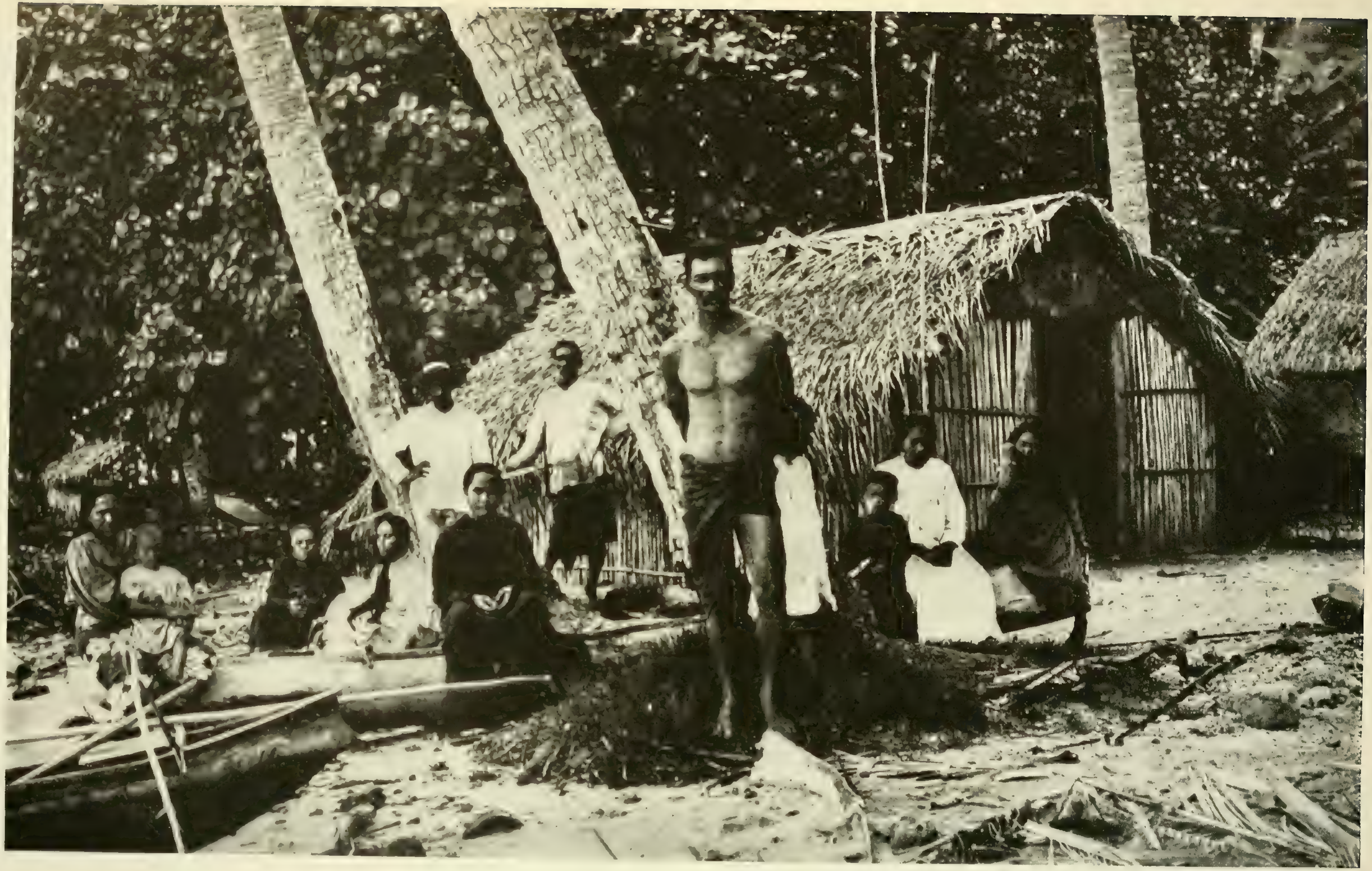
NATIVE TAHITIAN GIRL

Even Stevenson grew extravagant when dwelling upon the charms of the women of Tahiti. Here is one traveler's eulogy: "Bridge of nose incurved, nostrils slightly flattened, and lips, if a trifle thick, yet in perfect harmony with pearls of teeth and those deep brown eyes, so sweet and voluptuous without offense! Hair black as ebony, flowing over the shoulders, sometimes tied with a bit of bright ribbon and capped by that wreath; legs bare, feet, too, ankles just lovely. Some are smoking cigarettes rolled in pandanus leaves."

Photograph by L. Gauthier, © Paul Gooding

THE QUEEN'S BATH, PAPEETE: TAHITI

Poor Queen Pomare, last of Tahiti's recognized royal line, lived simply and wanted only a palace. True, she had one, the Aorai, meaning "cloud of Heaven"; but that Tahitian Potsdam, despite its name, was only a modest bungalow, which might have been taken for a missionary's cottage. Its furnishings were equally plain, made more so in contrast to its one ornament, a portrait of the dusky Queen, said to have been presented to her by Louis Philippe, who had it done from a photograph sent him by a French officer.



Photograph from Dr. Theodore P. Cleveland

AN APOLLO OF TAHITI IN LIVING BRONZE

The Tahitian's favorite abode is a bamboo hut, preferably built in a grove of palms When the French administration, for military reasons, compelled residents in the vicinity of Papeete to build in the open, with some regularity with regard to streets, those affected sulked and gradually returned to their old haunts. Now, when the native copra magnate feels his social position demands some display, he often builds in the European fashion, but lives in a "Robinson Crusoe" hut of this type near by. The walls are bamboo sticks, the rafters hibiscus, and pandanus leaves form the roofing. The entire structure is built with the idea not of keeping the rain out, but of letting in the breezes.

ment. At other meals fei, yams, and taro replace the loaf.

As I sat at breakfast on my first day in Papara, I heard a frightful moaning in the front part of the house. I supposed that some one had been hurt or had received distressing news. After the crying had continued without abatement for fifteen minutes, I investigated the cause, and to my astonishment found that the apparent sufferer was an old woman, and that the seeming cause of her grief was my guide, who had been called away while breakfasting. She sat at his side and sobbed piteously on his shoulder. I could not imagine what had led to all this lamentation. It could not have been cruelty on the part of Tairua, for he, wearing a solemn look, had an affectionate arm about the anguished one.

As soon as I got Tairua aside I asked him, "What is the trouble with the old woman?"

"She is my grandmother," he replied. "I been long time away and she come to give me welcome."

KILLING THE FATTED PIG FOR THE PRODIGAL

That morning a pig was killed in honor of my conductor and was to be served for dinner. Thus it is in Tahiti. When the long absent prodigal or favorite son reaches his home again, the fatted pig is slain for him as a mark of esteem.

To this island the porker is what potatoes are to Ireland and the oaten cake to Scotland. Without it Tahiti would be disconsolate and would quickly become a discontented land which only spare-ribs and bacon could restore to bliss. Almost everywhere along its coasts I heard the squeal of this indispensable animal, as, tethered by a leg to a banana plant or coconut tree, it fretfully sought to break its fetters. In the wild, unpeopled hills it enjoyed a roving freedom, but even there was pursued by vengeful foes, armed with formidable spears, who cut it into small pieces and carried these to their homes in bamboo rods.

The hog killed in Tairua's honor was served with yam, fei, coconut sauce, and milk.

My hosts and Tairua ate with their fingers, but I was supplied with a knife and a fork.

Tahitians still have an aversion for artificial aids in eating, for they believe that nothing surpasses their own digits as food conveyors. When Wallis visited the island a native who had been facetiously named Jonathan thought otherwise after he had put on European clothes, and he resolved to elevate himself in society by feeding with a fork. He made a heroic attempt, but every time he strove to establish a connection between the instrument and his mouth his hand encountered his lips, leaving the food poised at his ear.

AT A TAHITI CONCERT

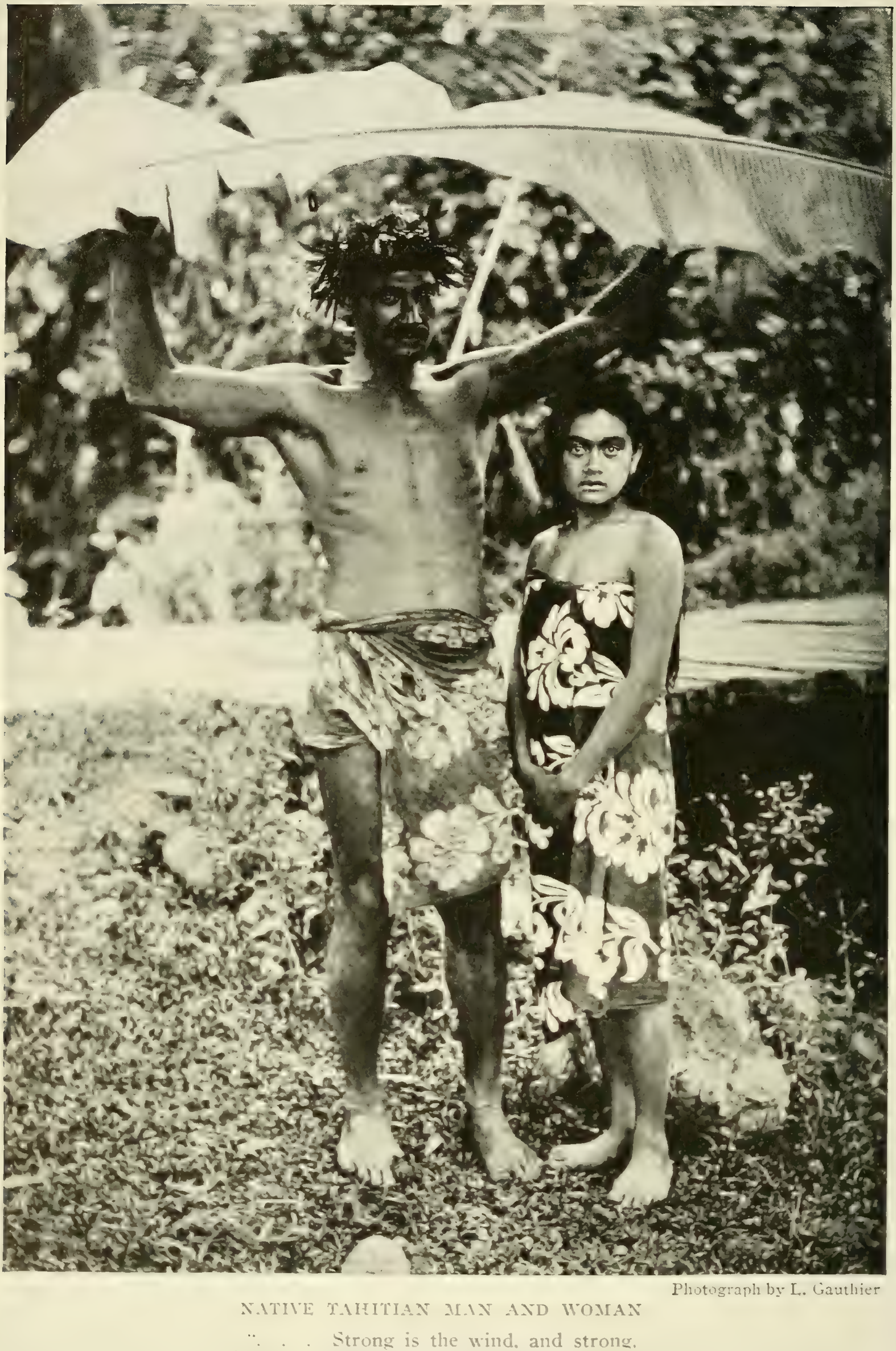
After supper this day, Tairua and I went up the road to hear the local singing society give its weekly rehearsal. Every district in Tahiti has such an association, I was told, and Papara was then more noted than any of the others for choral performances.

The Papara society held its practices in a long, narrow building with open sides and ends and a palm-thatched roof, near the highway. Its members squatted on the ground, with the women in front. Tairua told me that their program included a selection about Adam and Eve and another about the miraculous catch of fishes on the Sea of Galilee. They sang with vim and their unison was excellent.

At times their efforts were marked by a humming and droning something like that of a bagpipe and by high and long-drawn notes. Sometimes, when they appeared to be on the point of ending in a lengthy drone, a sharp crescendo from the leading woman caused an instant revival.

The rapid changes, blending, and sustained efforts were amazing. For a while I was spellbound, but the droning lulled me and with my head on a log I slumbered.

On the second day of my stay in Papara I went on a hunt for fei in the adjacent mountains. The fei is a species of plantain, and it is the island's most valuable article of food. It grows in the mountains and is available at all times of the year. It closely resembles the



Photograph by L. Gauthier

NATIVE TAHITIAN MAN AND WOMAN

". . . Strong is the wind, and strong,
And fruitful, and hardy the race, famous in battle and feast,
Marvelous eaters and smiters."—*Stevenson.*

banana, but its leaves are darker. The fruit is from an inch and a half to two inches in diameter and is borne uprightly on the stalk in bunches that frequently have from 100 to 150 plantains. When ripe, these are a light red or yellow. There are many varieties.

The fruit is boiled or baked for eating, and after it is cooked it is customary to beat it with a stick to loosen its skin and improve its quality.

The fei grows far up mountain slopes, where it can be seen miles away. To get this staple, the woodsman must worm his way up almost impassable steeps, and then down narrow, slippery paths he must descend, weighted with swaying burdens of from 100 to 150 pounds. The sticks on which they are slung bear so heavily on the flesh that they cause toughened lumps to form on the shoulder.

CARE OF CLOTHES CAUSES DEVOUT POSTURE IN CHURCH

The following day being Sunday, I attended services at the Protestant church with my host. We reached the church a half hour too early, yet we were among the last arrivals. At that hour more than a score of women, many wearing black dresses and straw hats of the same color, were seated under a big clump of bamboo, and in and around a Chinese store were thirty more natives of both sexes. The majority were barefooted and all were neatly attired in European clothes.

When they filed into the church, the men and the women sat on separate benches, though not on different sides of the house. About half of them leaned on the backs of the forms in front of them. This caused me to conclude with undue haste that they were very devout. When I learned the reason for this attitude, the aspect of piety I had conjured faded away. These saintly angles did not indicate reverence; they merely betokened laudable efforts to keep the backs of coats and dresses from adhering to planks which had been coated with paint improperly mixed.

The services were opened with singing, which, of its kind, was extraordinary. High aloft in the rear of the building a wonderful flow of melody was poured out by a choir of forty or fifty boys and girls. In the first twenty-five minutes there were five songs. At times the congregation joined, but its good intentions were spoiled by a deal of coughing.

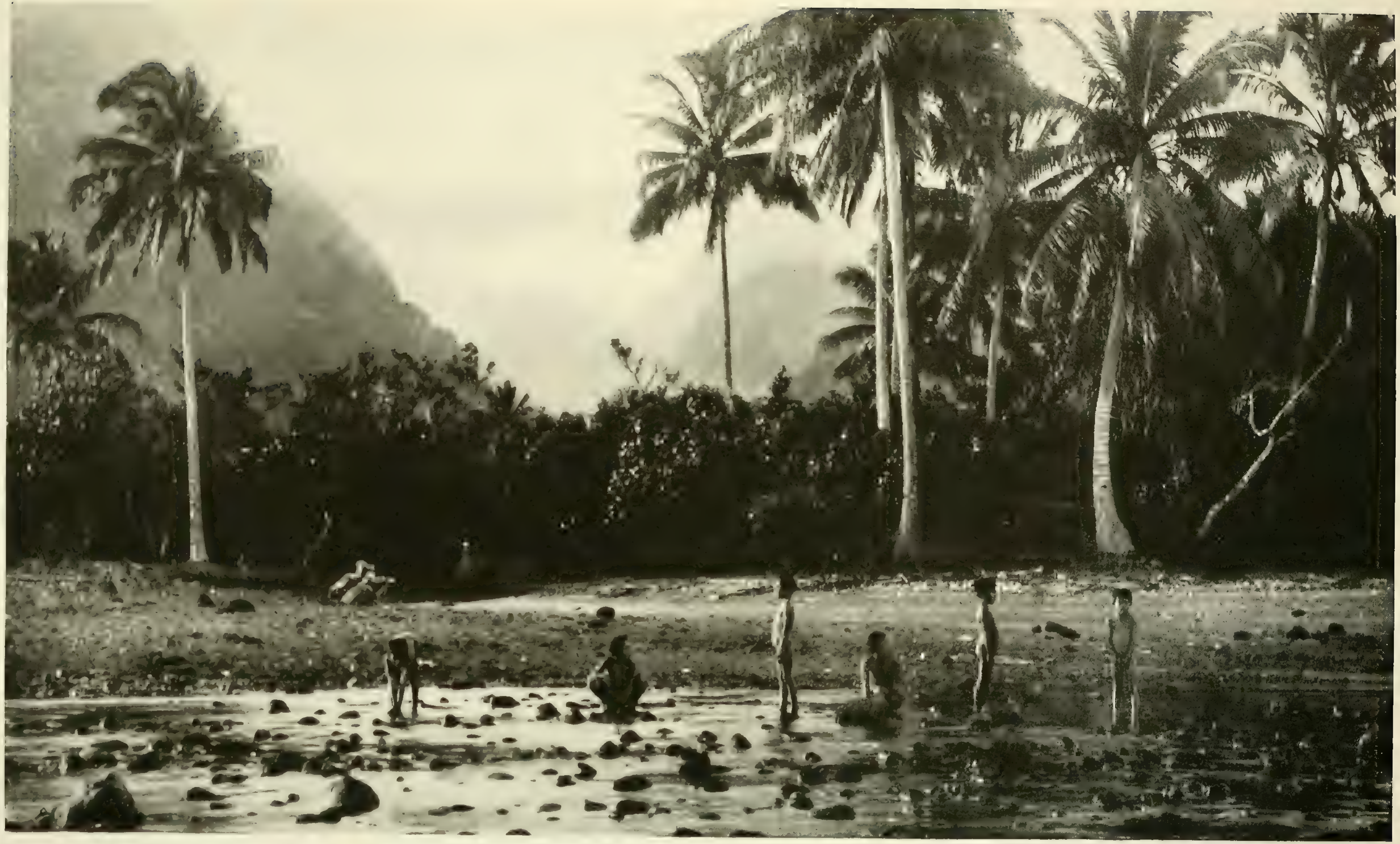
The pastor was one of the most industrious preachers I have ever heard. He spoke for thirty minutes, and scarcely paused an instant all the while.

After the congregation's dismissal, the majority of its members foregathered at the bamboo clump and in the store and its lunch-room. Nearly all of the men and many of the women lighted cigarettes. The Tahitian churchman has his own brand of cigarette, but he is just as ready to accept any other kind. His sort is a small piece of local tobacco wrapped in a bit of the pliable pandanus leaf. Sometimes I saw it passed from hand to hand, like community property, thus affording pleasure to several persons before it became a stub.

Monday morning I bade Matariro farewell, after I had settled my account with him on the easy terms of "pay as much as you like."

Beyond the plantation Atimaono, 25 miles from Papeete, where we paused to see cane fields, a sugar-mill, and 40,000 coconut trees, an enchanting perspective unfolded before us. In the distance rose the ranges of the peninsula, and we passed green hills, pretty bays, and many rivers and creeks flowing between masses of vegetation riotously spreading over swampy lowlands. High over native chestnut trees climbed and rambled the flowering pohue (convolvulus); along the highway an occasional gigantic fern threw out fronds rivaling in length those of the tree-fern; at their roots feathery swords of lesser reach grew luxuriantly, and all around them leaf, flower, and trailing vine covered the earth so completely that only the road showed a barren spot.

Vegetation attained its rankest growth on the shores of Port Phaeton. Here wild hibiscus hung so thickly over the water's edge that, at a distance, only a solid bank of foliage was visible. In this tangle the chestnut and the giant hotu (Barringtonia), the former the prey of ferns and other parasites, cast their



Photograph by L. Gauthier

HOME OF TATI SALMON, HIGH CHIEF OF THE TEVAS, PAPARA DISTRICT: TAHITI

Scion of an old family and head of those ancient fighters, the Tevas, whose tragic story was immortalized by Stevenson, Tati Salmon is noted for his hospitality and for his love of horses and money. His family and that of the late Queen Pomare were friends for generations.

shade; and around them magnificent bunch ferns clung to embowered cliffs and, with other plants, impinged upon the sinuous thoroughfare.

The productiveness of the land was matched by the fecundity of the sea. Oysters covered the rocks of the tide-flats, slugs profusely strewed the shallows, and playful fish leaped bodily from the tidal lakes formed by the intercepting road.

A "BIRD CAGE" HOUSE

The Isthmus of Taravao, overlooking Port Phaeton, is the parting of the ways for the circumambient traveler. Here one road swings round to Maora, another follows the coast to Tautira, and a third leads to Hitiaa and Papenoo.

We took the road to Maora, and that night arrived at the home of one of Tairua's cousins, at Vaieri, on the southern side of the peninsula. She was a doctor, I was told, and with her family occupied the neatest bamboo or "bird-cage" house in the village. It was about twenty feet long and twelve feet wide and its single room was roofed with pandanus.

I judged that there were at least one hundred courses of thatch, or twice as many as in the ordinary palm covering. Each was strengthened with bamboo and reeds and the whole was fastened to rafters of hibiscus with narrow strips of bark from this same tree. The siding consisted of bamboo four and one-half feet high, tied together with hibiscus rope. The door was a mat of palm branches, minus hinges. The floor was a thick carpet of dry grass, partly overlaid with a mat. Inside everything was neatly arranged and scrupulously clean.

The mother spent the evening talking to Tairua and weaving a reed hat, in which occupation she showed her dexterity by handling eleven strips at a time. When I retired for the night I was given the only bed she possessed, and that I might have clean linen, she and her daughter went to a neighbor's and borrowed it.

Tairua was provided with a mattress on the floor and the family slept near him on the floor mat. In the morning I breakfasted with him and his grandmother's brother, in cross-legged fashion before a cloth. The rest of the household ate in the thatched kitchen, which they evidently deemed too common for me.

After breakfast Tairua and I continued to Maora, where we planned to take a canoe the following day to round the coast of Pari. When we sought lodgings for the night we were directed to the villa of Monsieur Toa. Here we were favorably impressed by a supper of chicken, with coconut gravy, beef, fei, rolls, and coffee.

As I sat on Toa's veranda after this meal I heard barbarous yells across the road. They proceeded from a group of boys and girls from six to ten years old, who were giving an impromptu dance. They were in the midst of it when the father of one or more of them burst upon the scene with shouts of disapproval and blows on heads. I asked Tairua why the man should object so emphatically to a seemingly harmless performance.

"Tahiti people don't allow their children to dance," he explained. "I would not let them do so if I had any. It is bad for them. Tahiti children are not allowed to dance until they are eighteen years old or are married."

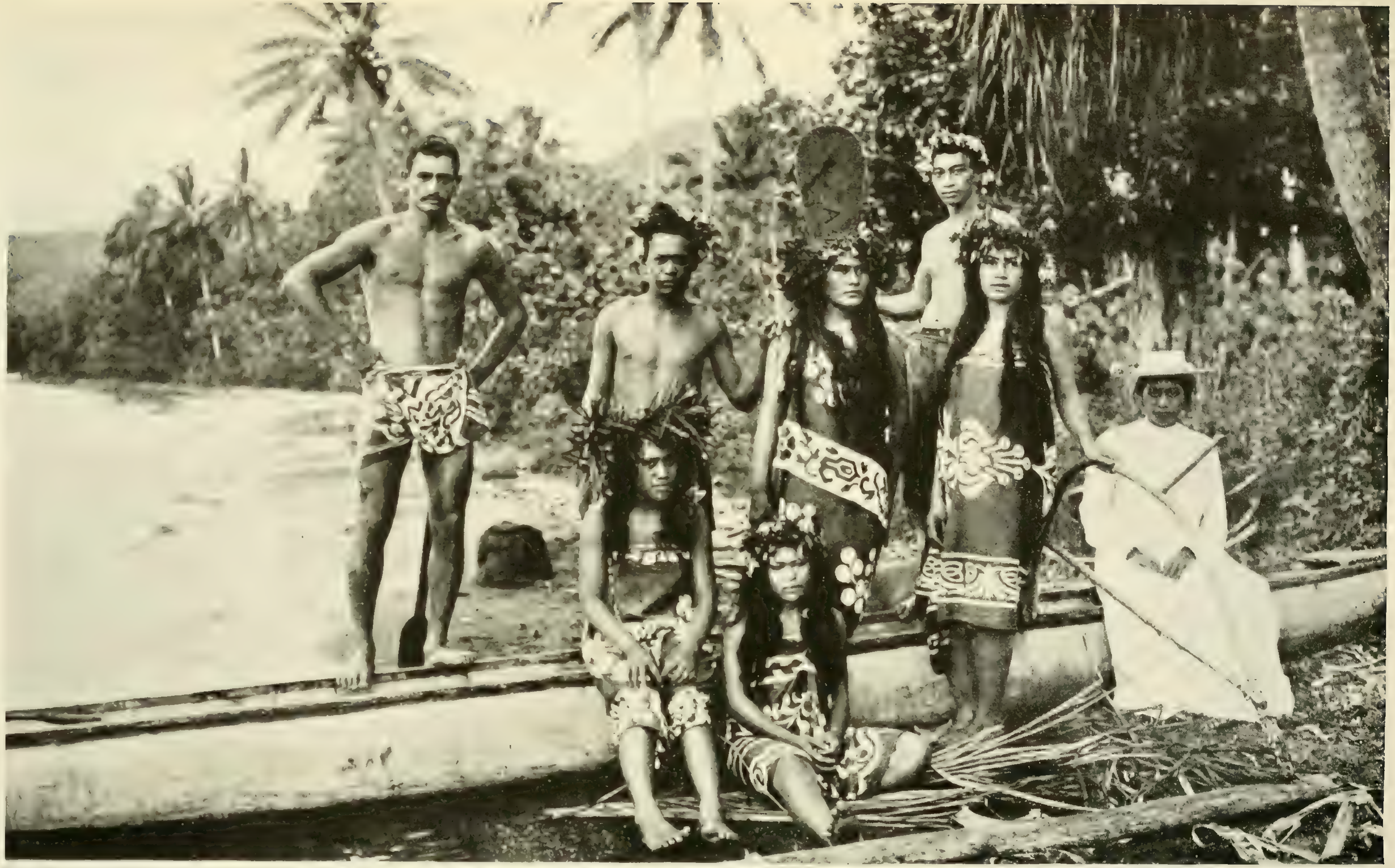
WASPS AND SPIDERS IN THE HOMES

To most persons seeking sweet repose, the presence of two or three hundred wasps and several ferocious-looking spiders in their bedroom would not be conducive to dreamless or visionless sleep; yet it was with just such company as this that my guide and I slumbered in Toa's house that night. When I was about to retire I chanced to look up, and lo! directly over our beds, in the angle of ceiling and wall, clustered two or three hundred wasps.

"Look at that!" I exclaimed with some animation. "We are likely to get stung before the night is passed. And look at those two big spiders. One is almost as large as a crab. Is it safe to sleep here?"

"Ho, ho!" chuckled Tairua. "They will not hurt you. The wasps are there because they are cold and the spiders are afraid of us."

In spite of this comforting assurance, I found it extremely easy to invent pictures of inquisitive winged insects drop-



Photograph from Dr. Theodore P. Cleveland

A FASHION SHOW IN THE SOCIETY ISLANDS: NOTE "CIVILIZATION'S" SARTORIAL CONTRIBUTION TO THE ENSEMBLE

Six feet is the average height of the pure-blooded Tahitian male, a splendid physical specimen, nimble in running and climbing and mighty in rowing. Only the Marquesans compare with Tahiti women, among the South Sea islanders, in beauty of form and face. Especially do these women know the art of simplicity in dress. Their one-piece gowns they dye and stain in beautiful designs, using dyes they concoct from berries and plants. They display their long hair to best advantage by allowing it to hang loosely about their bodies, and crown it with a wreath, sometimes made from plaits of human hair and again of artificial flowers. Even where flowers abound, millinery fashion insists upon an imitation of nature.

ping on the counterpane and engaging in a sparring match with a very unwilling opponent, and I imagined spiders bent on settling themselves snugly in my hair for the night.

I was eager to go round the inhospitable shores of Pari, and at Maora I arranged with Paorai, a native, to transport me in an outrigger canoe to Tautira, on the northern side. He warned me, however, that he might not be able to make the passage if the sea became rough, adding that often he had been forced to return after he had started for the home of Punua, god of rocks and precipices.

At 8 o'clock the next morning we embarked in a fifteen-foot canoe. The day was dulled by clouds, but the scenery we passed was magnificent. All the way mountains approached close to the water and rose to a height of several thousand feet. Every foot of their length they were covered with dense vegetation, from which innumerable feis thrust their long leaves and over which the pohue spread its ornate canopy.

On the sharp summits slender rows of thickly clustering trees stood out so clearly defined as to form a remarkable hedge. Thus one sweep of the eye revealed a foliaged fringe on the skyline, a palm-bordered shore, and a coral rim at sea. Nowhere in all this panorama was a sterile spot discernible, except the scar of avalanche.

DEFEATED BY THE SURF

Near Pari the sea became rougher, especially at the passes, where it rolled in with full force. Off Mitireu we ran into big billows and several times shipped water. Ahead the outlook was still stormier. Soon we were opposite the surf-swept rocks of the abrupt coast and our position became constantly more perilous.

Paorai was a good pilot. He spoke many words of command and caution to his assistant and watched every oncoming swell with riveted eyes. Now and then it seemed that the vaa would be overturned, but the outrigger saved it, though in untried hands it probably would have capsized.

At last the growing fury of the sea led Paorai to abandon further progress, and when we were almost within sight of the cliffs, which rise hundreds of feet and hurl the ocean back into its lawful precincts, he ordered a retreat.

At that moment we faced one of the wildest spectacles I have ever seen. Huge billows rolled incessantly inland. Along the shore the lashing surf flung itself high against the barren rocks and, falling back, was thrown upon the impenetrable barrier again. Ahead, toward a dark horizon, the air was misty with spray, and both there and for miles to our right and rear heaving waters beat themselves into noisy bands of foam as they mounted the coral reef and, partially recovering their momentum there, hurried on to their goal.

MISTAKEN FOR A BOGEY

On our return to Maora I had scarcely landed when, treading a beach path, I met a lad wearing only a shirt. To my amazement, he gave me one frightened look and dashed panic-stricken for his home, yelling with every step. It was the first time I had been mistaken for a bogey, and to me the situation was as amusing as it was terrifying to the child. After that, in less frequented places, I was amused to see youths and maidens race madly through banana and coconut groves with shirt tails flying signals of distress, and all at the mere sight of one whom I have always considered to be a harmless-looking Caucasian.

With the intention of making still another effort to conquer Pari, we went to Tautira, where Stevenson once lived for a few weeks, and thence down the coast by canoe and footpath; but after we had almost reached our lonely destination we were baffled again by billow and precipice.

From Tautira we retraced our steps to the isthmus on our way to Hitiaa. We reached the village late in the afternoon, wet to the skin by a heavy rain.

The most inviting-looking house belonged to the district chief, where, a native told us, "all the white men stop." At our knock the door was opened by the chief himself, and he promptly assured us of supper and a night's lodging. He was barefooted and wore only a pair of overalls and an undershirt, but I saw that he was accustomed to society, for in one room were three beds and in another was a long dining-table, above which hung a portrait of a former French President.

HIS POSITION AS DISTRICT CHIEF A LIABILITY

After changing our clothing, we sat on the back veranda and chatted with our host. He was young and, as one might reasonably expect of a son so honored, ambitious. In him, however, an ardent desire for power and fame did not burn. In other times he may have been animated by a fire of that sort, but if so it had dwindled to a mere flicker. We received lamentable proof of this when he confided to us that he had no wish to hold the scepter over his 450 subjects. But he had at least one good reason for his unwillingness. His monthly salary was only $15.

Perhaps this would have been enough for his own needs, but, as it was his custom to furnish good cheer to all his visitors without charge, the purchasing power of this sum was decidedly too limited. Instead of his office yielding a profit, it was a constant source of expense to him.

At a settlement beyond Hitiaa, Tairua met some of his relatives who invited us to remain for dinner. We accepted and thus brought death upon another pig. The house where we ate was a wreck. The roof was full of gaping holes and the walls were equally well ventilated. Around the roast nine persons squatted, and with fingers in lieu of cutlery the savory centerpiece was soon reduced to a heap of bones.

Here striking examples of the Tahitian temperament were furnished me by two boys. One, a pugnacious six-year-old, became enraged when his mother took a cigarette from his mouth and reprimanded him. In his wrath he struck her, but, fortunately for him, she was not in an angry mood.

The other lad, who was slightly younger, worked himself into still greater fury through sympathy for his mother, whose face had been blackened in a spirit of fun by the French husband of a native girl. The child became so passionate over this that he yelled with all his power, stamped repeatedly upon his own hat, and finally started for the joker to wreak vengeance. He was held back by his parent, who gave him a beating, but he continued to cry incessantly and to play abstractedly with his toes.

The final stage of my tour was in Papenoo, Tairua's fatherland. This was a rock-forged coast. Its shores were deeply covered with cobblestones, and dark, unyielding stone walls sullenly received the impact of a mighty expanse of ocean unchallenged by projecting reefs.

The home to which we directed our steps was a big bamboo building situated beside a stream, like the majority of Tahitian country homes. I was welcomed at the threshold by Tairua's mother, a tall, stern-featured native, who was smoking a cigarette and wearing a bandage to ease an aching tooth. Shortly after our arrival we sat down to supper on a floor overlaid with hibiscus leaves.

THE MEN OF TAHITI AID IN THE HOUSEWORK

Following this meal we sat conversing until 9 o'clock. At that hour Tairua's uncle offered a prayer, a signal for bed as well as an address to his Creator. There were two beds and I was given the better one. The other was occupied by the married son and his wife, and the remaining sleepers lay on the mat-covered floor. In the morning everybody was up early. And behold! the men helped the women prepare breakfast. They shredded coconuts, pounded coffee, and carried wood and water.

That morning I received an instructive illustration of how the rural Tahitian works out his taxes. This was at once a serious occupation and a comedy. Naturally the workers took the first view and I the latter. These fellows, who were allowed sixty cents a day, calmly sat in the road and placed cobblestones with the deliberation of chess players.

Trust the Tahitian to take life easy. He will never become a nervous wreck from overwork. If anybody in his neighborhood is afflicted with neurotic complaints, the victim is more likely to be the man who tries to make him hurry at his daily toil.

THE MAKING OF A JAPANESE NEWSPAPER

By Dr. Thomas E. Green

THE making of newspapers is an art that, save in its most primitive form, belongs exclusively to modern—indeed, to comparatively recent—civilization. That Japan should, in the very few years since her modern metamorphosis, have so speedily caught up with the van of periodical publication is less wonderful when one remembers that the Orient is the birthplace of the "art preservative," and that China possesses the oldest newspaper in the world.

There have been similar newspapers from remote antiquity in Japan; small sheets roughly struck off from wooden blocks detailing some great political fact, or describing some crime or some generally interesting event.

The first attempt at a modern journal in Japan was in 1864, when the *Kuaigai Shimbun* was undertaken by Joseph Hess, a picturesque character, who in 1850 was cast away in the wrecking of a junk, rescued and carried to America. Here he lived for a number of years, acquired a speedy smattering of western ideas and methods, and, when Japan was opened after the visit of Commodore Perry, returned to his native land as an interpreter.

The first modern newspaper monthly worthy of the name was founded by John Black, an Englishman, one of the first foreign residents of Yokohama. This was in 1872. Since then Japanese journalism has grown with wonderful rapidity, both in volume and in character. There are now some eight hundred newspapers and magazines published in the empire, of which more than two hundred are in Tokyo.

JAPAN'S BEST KNOWN NEWSPAPER IS ONLY 38 YEARS OLD

Of the newspapers there are the *Kuampo,* which is the official gazette, containing the government announcements, such as laws, regulations, and appointments; the *Kokumin,* much quoted in press dispatches from Tokyo, as giving the government opinion of things international during the premiership of Prince Katsura, and the *Nichi Nichi,* as expressing popular sentiment of the better sort.

Of magazines there are scores of every sort and kind,—literary, artistic, legal, medical, scientific — technical along all lines of modern accomplishment and endeavor.

The *Jiji-Shimpo* corresponds in a measure to our words "The Times." Jiji means "timely events" or "daily events" and bears a peculiar, though entirely accidental, resemblance to the Greek "ti-ti," the particle of interrogation. "Shimpo" is the word for journal or merely "paper."

The *Jiji-Shimpo* is a monument, in a way, to the memory of its founder; not more a monument than a constant reincarnation of his spirit and influence. It was founded 38 years ago by the late Fukuzawa Yukichi, who was often called the Japanese Gladstone. No account of Japan, however brief, and particularly no reference to its intellectual and literary development, would be complete without reference to the life and influence of this remarkable man.

Born in 1835 a Samurai—that is, one of the military gentry, for in Japan every gentleman was a soldier and every soldier a gentleman—he was left a young boy, orphaned and poor. Despite the fanatical hatred at that time of all things foreign, Fukuzawa undertook the study of English and made such progress that when the first envoy was sent abroad, in 1860, he was the interpreter and secretary.

On his return he detached himself from all connection with official life and devoted himself to the herculean task of Americanizing Japan, for to him America was always the ideal among the nations.

Dropping his prerogative as a Samurai, Fukuzawa became a commoner and the preacher and teacher of a Jeffersonian type of democracy. He introduced into Japan public speaking and lecturing, for which many of his most progressive contemporaries declared the Japanese lan-

A GROUP OF "RIKISHA" MEN EXHIBITING THEIR THIRST FOR LEARNING, THE UNIVERSAL PASSION IN JAPAN

The Japanese have been termed by some observers the greatest newspaper readers in the world today. As in the United States, the perusal of the day's news is a duty which no one is too lowly to neglect and none too high to scorn. This is in line with their avid quest of knowledge. Especially is the trait evident in the schoolboy, whose eagerness to learn might cause the average American or English collegian to regard him as a "grind." Perhaps he misses some of the valuable lessons of playground and athletic field, acquiring no more in the long run by depending, as does the French student, so largely upon reading matter.

guage unfit. To make it still better suited, he coined new words and phrases to express modern ideas.

He translated western books and wrote original treatises upon social and intellectual reform. His works comprise one hundred and five volumes, of which more than ten million copies have been issued. It is no exaggeration to say that this one man is the intellectual father of more than half the men who are now directing the affairs and shaping the destinies of the island empire of the Orient.

Eventually his work crystallized in two things: the *Jiji-Shimpo* and the other the Keio Gijuku, an institution where a student body of more than two thousand is devoting its time and energy to practical preparation for usefulness—an institution whose modernity is indicated by the fact that it vanquished our own University of Wisconsin at baseball.

EVERY MAN ON THE EDITORIAL STAFF IS A UNIVERSITY GRADUATE

From the time of its establishment, it has been an unwritten rule that the men who compose the editorial staff, indeed that all the men concerned in the making of the *Jiji-Shimpo,* shall be graduates of the university. Every facility is afforded young men whose choice of profession is journalism to prepare themselves while in college for their future work.

The staff consists of an editor-in-chief, who is the general and responsible manager of the paper. Under him are five assistants, who are at the head of as many principal departments. Politics is handled by ten men thoroughly competent to discuss questions of state.

The policy of the paper is independent. It is partisan only in that it is liberal, devoted to progress, and opposed to any retrograde policy in Japanese civilization. In the main, it supports the government as at present organized, and when it takes occasion to differ, it does so with dignified and logical criticism, and not with the hysterical effusions that appear in the "yellow" journals that have developed in Japan as elsewhere.

Because of this scholarly and dignified character, *Jiji-Shimpo* wields a great influence and its voice is potent in shaping and controlling public opinion.

The paper emphasizes its commercial department and a staff of trained men looks after this part of the news.

A foreign department of three editors cares for the cable and telegraph dispatches and keeps in close and intelligent touch with international affairs.

Domestic news is gathered by correspondents in every city and important town of the empire, sifted, and arranged by two editors.

Twenty men compose the city staff and, in close harmony with the reportorial methods of our Occidental papers, cover the local news of Tokyo, a city of more than two million people.

A literary editor and two assistants prepare every Thursday a four-page supplement, covering the literary life and product not only of Japan, but of the world. I saw in a single issue a column and a half review of an economic work that was at the time causing considerable discussion in our American papers, and a lengthy mention of three works of American fiction numbered at the time among our own best sellers.

An art department has four special writers; there are two staff photographers and a caricaturist whose work is as original and as attractive as a shrewd Japanese McCutcheon can make it.

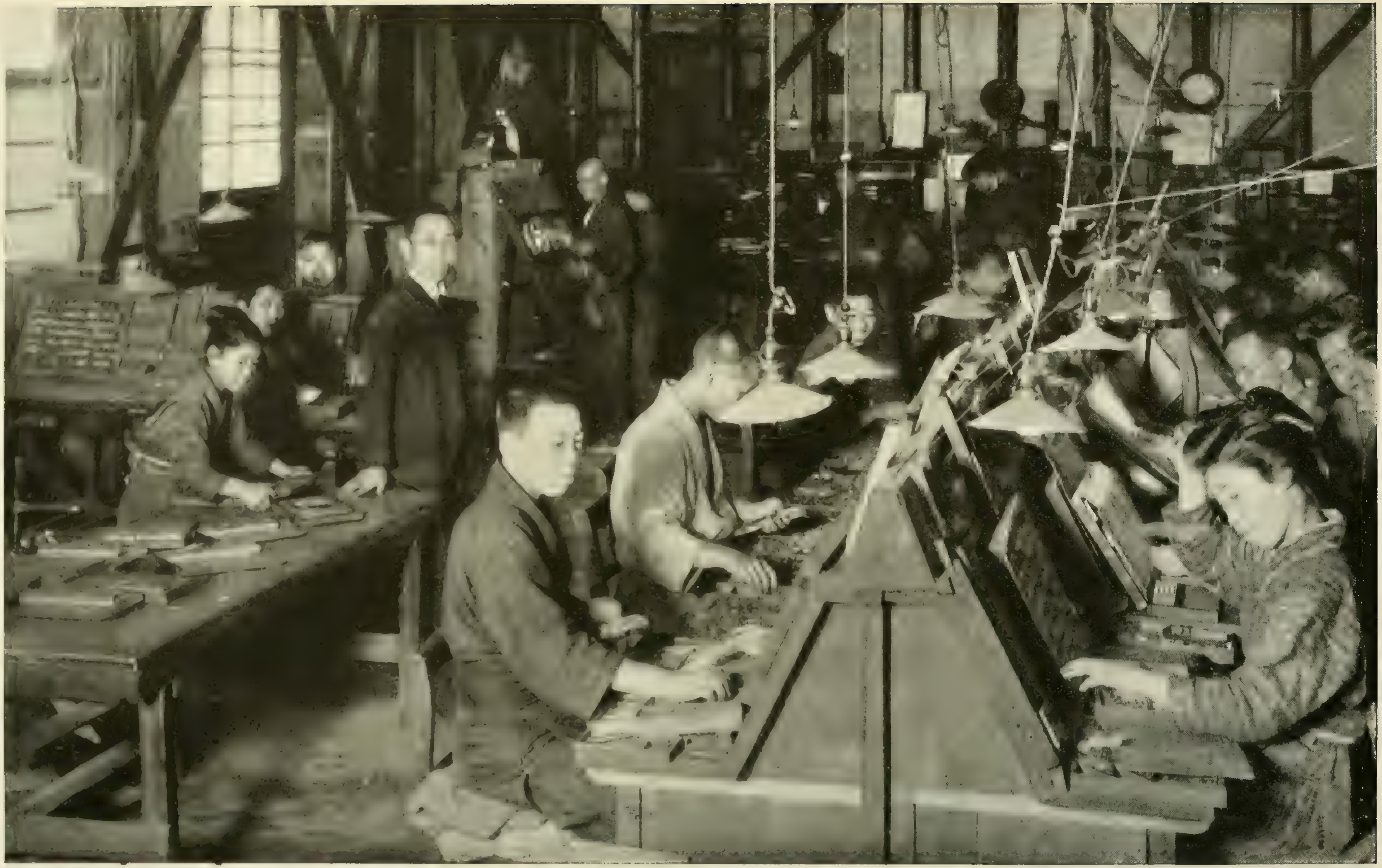
A WOMAN JOURNALIST IN OSAKA

An Osaka department, made up of five men and a woman journalist, look after a special edition printed each day and localized for that city of a million people.

In addition the paper issues a juvenile magazine called *Shonew,* with a circulation of seventy-five thousand, designed for the children of Japan. It is made up of stories, travel articles, games, and puzzles; and an unusual feature is a political section, given over to juvenile review of current issues, with a view to training boys and girls in a practical knowledge of the problems of citizenship. The *Jiji* has a daily circulation of about one hundred and ten thousand.

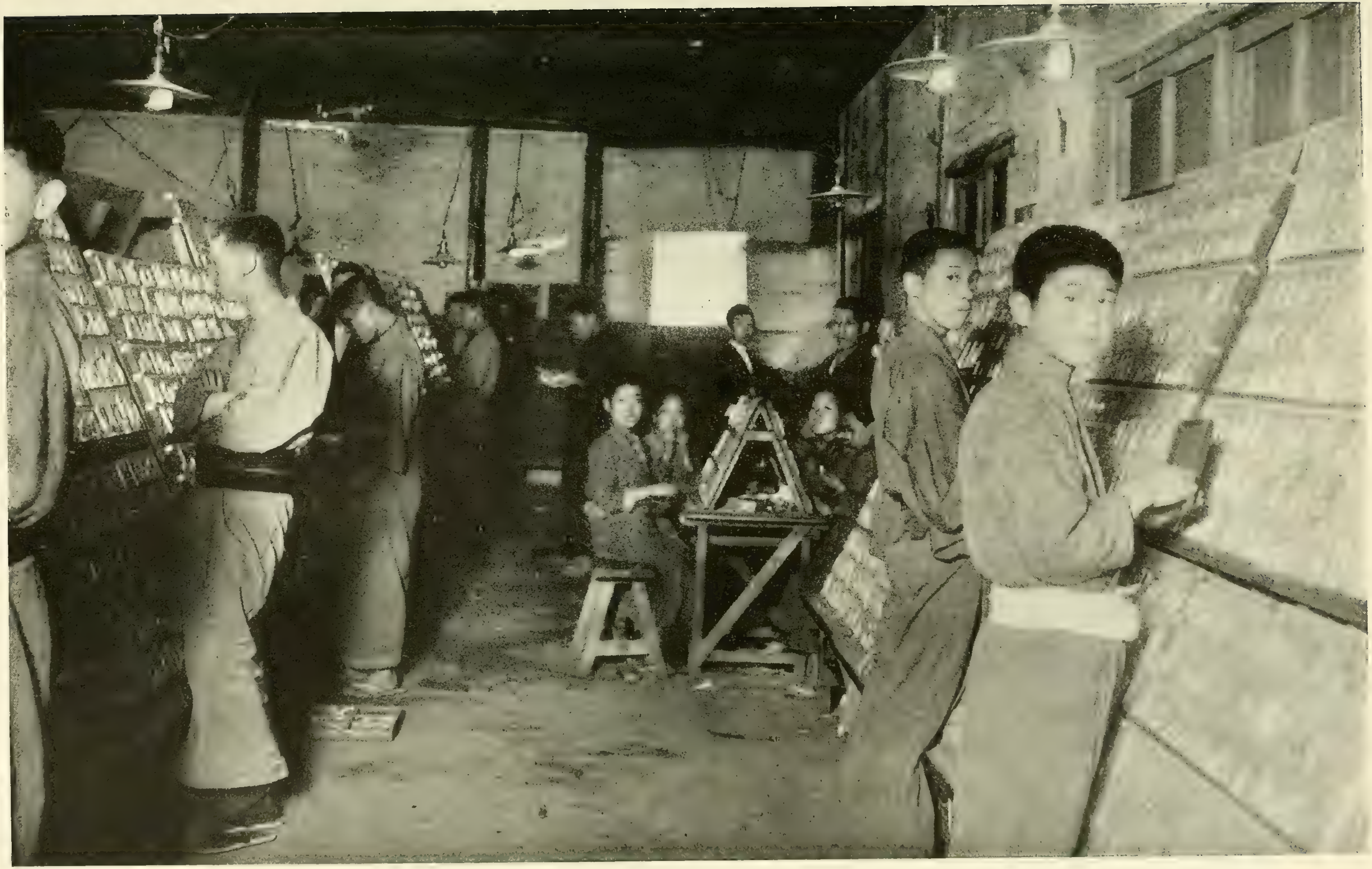
The *Jiji* is an eight-page paper, with generally a two-page insert, slightly smaller in format than American papers.

In common with all Oriental languages, Japanese is written and printed from right to left, and the title, therefore, is in the upper right-hand corner of what would be for us the eighth page. The



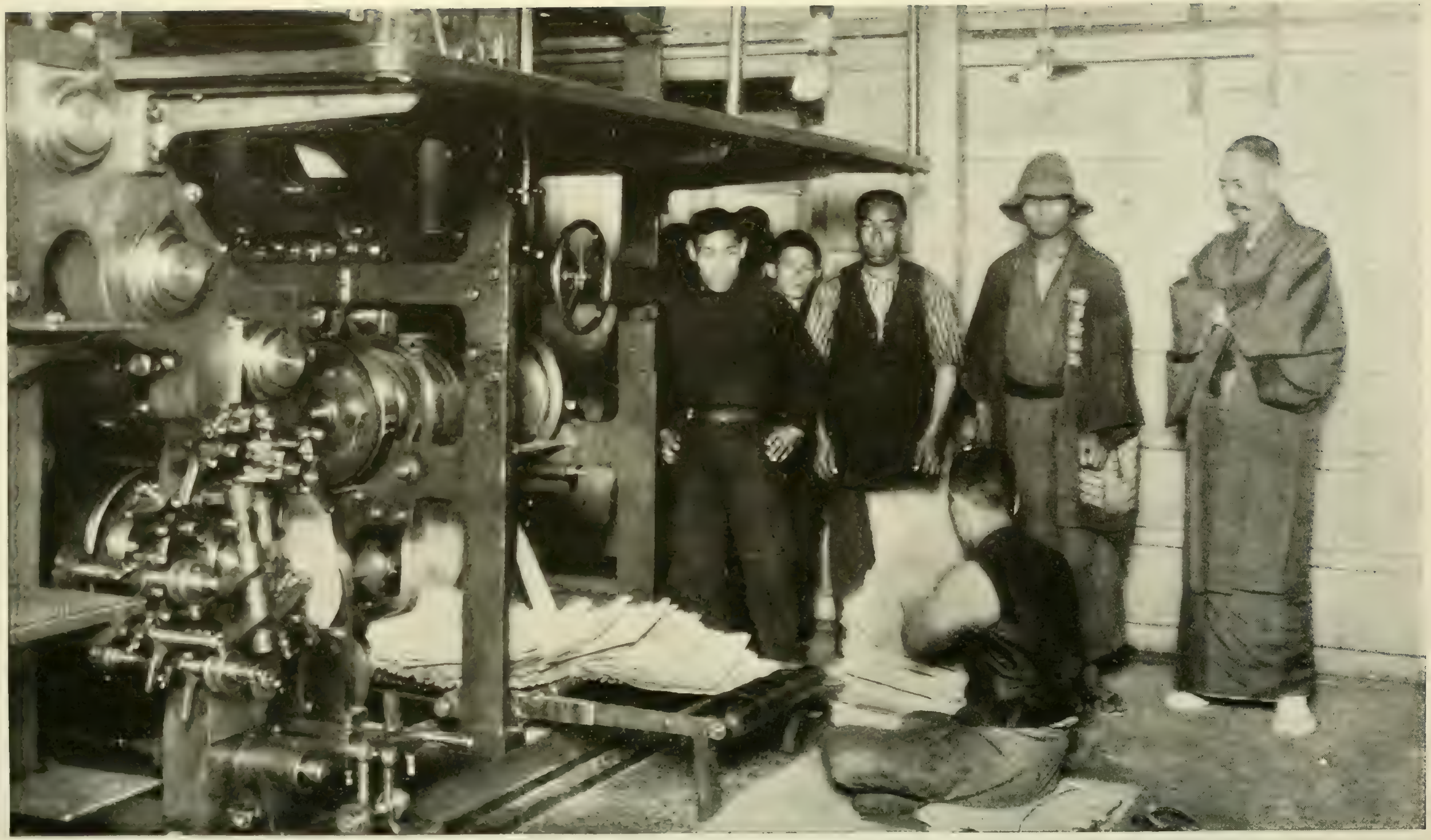
THE MAKING OF A JAPANESE NEWSPAPER: TYPESETTERS ADDING THE "GRASS-TYPE"

"Japanese is printed in two sets of characters—the borrowed Chinese, which are ideographic, each representing a word or a group of words; and side by side with these characters, in their vertical line, runs the translation or explanation in the indigenous grass characters, a sort of phonetic or stenographic script easily read and understood by the common and uneducated people."



THE MAKING OF A JAPANESE NEWSPAPER: CHINESE BOYS PICKING UP IDEOGRAPHIC TYPES

Instead of working before a case of 26 letters, the Chinese compositor must pick his type from thousands of compartments, set all around the room. Usually he has a group of type-collectors working with him. To remember what character they are seeking, they sing it in a nasal monotone. Small wonder that a veteran printer, after professing Christianity, said that he "renounced the service of the devil and gave up printing." Imagine the bedlam of getting out an "extra" in a Japanese composing-room.



MAKING OF A JAPANESE NEWSPAPER: THE PRESS

Presses similar to those of the United States are used in Japan, from which come papers printed, cut at the top, bottom, and sides, folded, pasted, and counted. Since the Japanese papers usually have fewer pages than ours, a speed of printing as high as 300,000 copies per hour is possible.

A BASEBALL NINE FROM THE TOKYO GRAMMAR SCHOOL

The Orient dislikes innovation and avoids physical exertion. Hence the deeper significance of younger Japan's wholesale pursuit of two American sports, baseball and tennis. Japan is distinctive among eastern peoples for its aptitude in adopting ideas of other lands.

lines of print are vertical and read from top to bottom and from right to left. Each article is in a small square surrounded by a border.

TWO KINDS OF TYPE FOR EVERY STORY

Typesetting in Japanese is a tedious and laborious piece of business from an Occidental viewpoint, though the many hands employed make it rapid enough in an Oriental sense. Japanese is printed in two sets of characters—the borrowed Chinese, which are ideographic, each representing a word or a group of words; and side by side with these characters, in their vertical line, runs the translation or explanation in the indigenous grass characters, a sort of phonetic or stenographic script easily read and understood by the common and uneducated people.

When an article or editorial is ready in manuscript, it is sent first to the ideographic composing-room, where it is divided into "takes" and given to Chinese compositors. The room is filled with closely set racks, containing the thousands of varieties of ideographic type.

Each compositor goes from rack to rack looking for the character required. That he may not forget what he is looking for, he sings it over and over audibly, in a cracked, nasal sort of sing-song. A composing-room is anything but a quiet place, resembling the chorus of a Chinese theater.

When the article is finished, it is placed in a sort of galley, tied together and sent to the real compositors, who untie it and proceed with a pair of tweezers to place the small grass type beside the ideograph characters. This work demands scholarship of a high order, for it requires not only an accurate and exact knowledge of orthography and language, but general information in regard to the subjects discussed, that the multi-meaning characters may be interpreted.

The type thus completed is proved, the proof carefully read and corrected and taken then to the imposing stones, where it goes into the make-up of the paper.

All typesetting is of necessity hand work, as the peculiar character of the language precludes the use of a linotype.

Stereotyping and press-work are along the ordinary lines required for the Hoe perfecting machine, from which the paper comes, folded and counted as in one of our own establishments.

The day's work is similar to our own. The editorial department begins activities about eleven in the morning and its work is completed by five in the afternoon. The typesetters are at work by eight. The business offices are open from ten to ten.

The first edition is on the press by eight, in order that it may catch the night trains for provincial circulation. The city edition goes to press at 1 a. m.

Advertising rates are comparatively cheap—on the ordinary pages fifty sen; on the title and editorial pages up to eighty sen a line, a sen being practically half a cent. The subscription rates are only fifty sen per month.

CORRESPONDENTS IN WORLD'S GREAT CITIES

Before the World War, the *Jiji* paid its editor-in-chief three hundred yen a month ($150)—but, compared with the cost of living in the two countries, that was the equivalent to more than double the amount in America. The assistant editors receive two hundred; a good reporter one hundred; an ordinary one from fifty to seventy-five.

Chinese compositors were paid five dollars a week; the phonetic compositors from ten to fifteen. Stereotypers and pressmen were paid from five to eight dollars a week. Since the war all wages have advanced about 50 per cent.

The paper has a staff of correspondents in most of the capitals of the world—Washington, London, Paris, Berlin, Vienna, and in each of the great cities of the Orient.

It uses cables and telegraphs quite as regardless of cost as does the average western paper, and any great event, wherever occurring, will, within a few hours of its happenings, throw an army of shrill-voiced newsboys on the streets, crying "Gogwai! Gogwai!" "Extra! Extra!"

The photographs of the offices of *Jiji-Shimpo,* made for me, through the courtesy of the editor-in-chief, by the staff photographer, are of unique and vivid interest, and tell in a graphic way the story of the making of a Japanese newspaper.

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PEKING, THE CITY OF THE UNEXPECTED

By James Arthur Muller

As one passes within the walls of Peking he expects to find, as in other Chinese cities, the bannered signs of shopkeepers throwing gay canopies across narrow, tortuous, huddled streets; but behold! broad avenues three miles long, crossed by other broad avenues three miles long, making squares as regular as those of a checkerboard.

The visitor wonders whether the builders of this city saw in prophetic vision the streets of Chicago, Denver, and Philadelphia. Then he begins to suspect that Peking is the one spacious Chinese city because it is not a Chinese city at all, but a Tatar city, built by adventurous barbarians of the north, men who lived in the saddle, upon steppes and plains, whose feet were set in a large room.

THE CAMELS AND CARTS OF PEKING

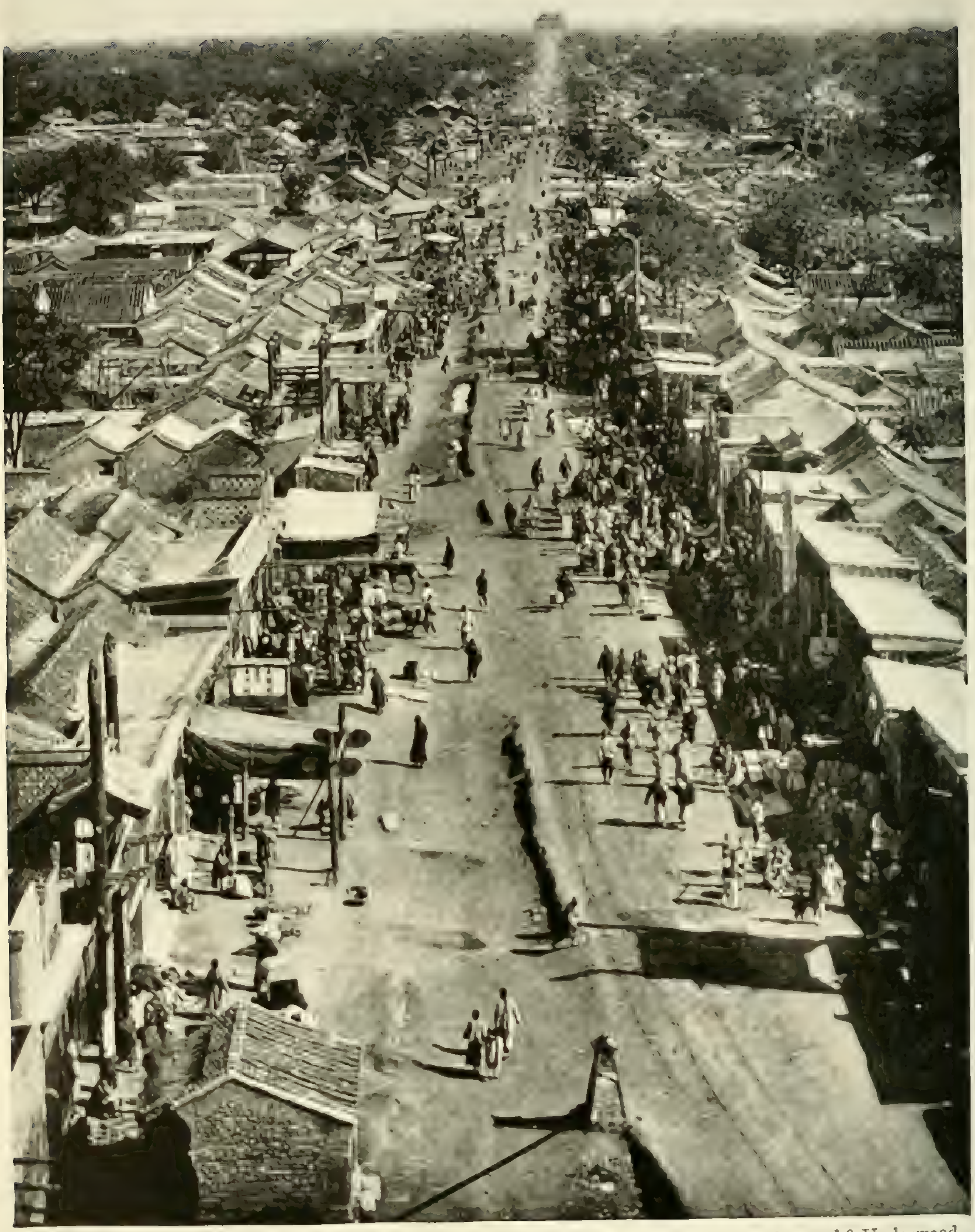
Wonder does not stop with the length, breadth, and regularity of the streets. The traffic upon them is equally unexpected. In the cities of southern China, sedan-chairs edge their way with difficulty through the crowds of pedestrians and carrying coolies, who jostle each other in the narrow lanes. In Peking every street is alive with beasts and vehicles.

Down the smooth, tree-lined, macadam center-roads autos, cabs, rickshaws, and bicycles speed past slow-moving catafalques and crimson wedding processions. On each side, between sidewalk and trees, along a highway of turf, go mule-mounted equestrians, soldiers on sturdy Manchurian ponies, triplets of donkeys hauling lumber, brick, coal, and crockery, portly old gentlemen straddling diminutive asses, blue-canopied Peking carts, and caravans of camels out of the north.

Imagine a city where camels go up and down the streets upon legitimate business, not in a circus parade! The visitor strolls along Hatamen Street after breakfast, and there they are, on their knees, blinking in the morning sun — fine, shaggy, brown beasts, an occasional white one—rather dirty white—among them, chewing their cuds in leisure. The pavement before the shops whither they have carried merchandise has been their caravansary for the night. There are dozens upon dozens of them lining the sidewalk, up the street and down.

By and by the drivers come forth, throw their empty sacks between the humps of the animals, rouse them, and lead them off down the street, slowly and softly stepping, in single file, out beneath the great stone arches of the Hata Gate, then westward beside the frowning buttresses of the city wall.

Almost as fascinating as the camels are the carts of Peking, or rather the little beasts which pull them—ponies, donkeys, mules, and nondescript, elusive creatures that are neither horse, mule, nor ass, but subtle, indistinguishable mixtures. On first sight one is sure they are horses, on the second he is sure they are mules, on the third he is equally sure they are zebras with the stripes worn off. One historian of China speaks of the ancient



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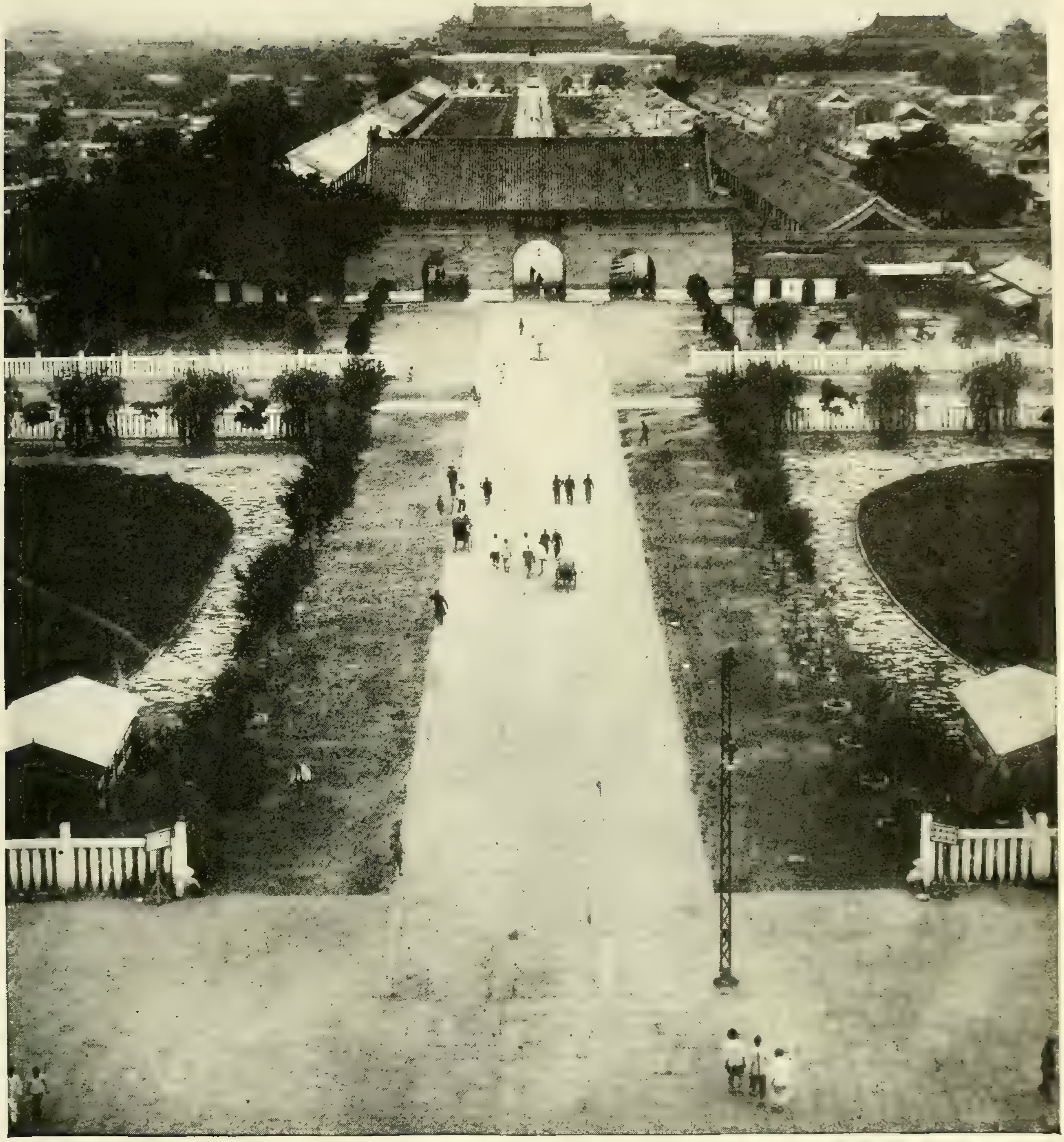
INSTEAD OF NARROW, TORTUOUS STREETS, PEKING HAS STRAIGHT, BROAD THOROUGHFARES, MANY OF THEM THREE MILES LONG

The explanation for the difference in physical aspect between China's capital and such cities as Shanghai, Canton, and Hankow is that Peking is a Tatar rather than a Chinese city, for it was built by adventurous barbarians of the north, men who lived in the saddle and upon the steppes and plains (see text, page 335).



Photograph by W. F. Robertson

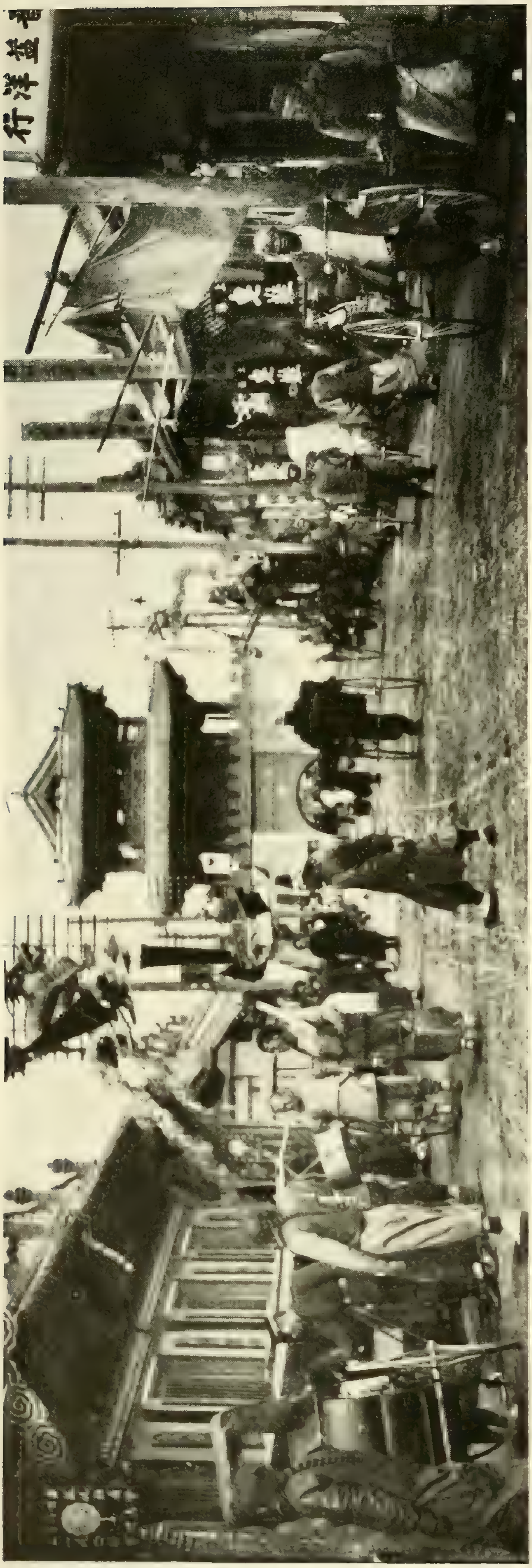
THE GATE TO THE IMPERIAL CITY: PEKING

Occupying the center of the Inner (Tatar) City, the Imperial City is inclosed by a rectangular brick wall. In the center of this city is the Purple Forbidden Palace, within which, in turn, was the Emperor's Palace, containing many halls of vast proportions, magnificently decorated.

Tatars as possessing horses, asses, mules, and "other peculiar breeds of the equine family." These ancient other breeds still trot about the Tatar city.

A CITY WITHOUT A SKYLINE

If streets and traffic, carts and camels are unexpected, no less so are the buildings. The traveler who has seen pictures of the majestic temples and palaces of Peking enters the imposing South Gate prepared for architectural raptures. But he finds the broad, straight highways of the city lined with insignificant one-story shops or with equally insignificant gray, windowless, one-story house walls, or long, unlovely, stretches of dull-red plastered fence walls.



Photograph by Alexander Stewart

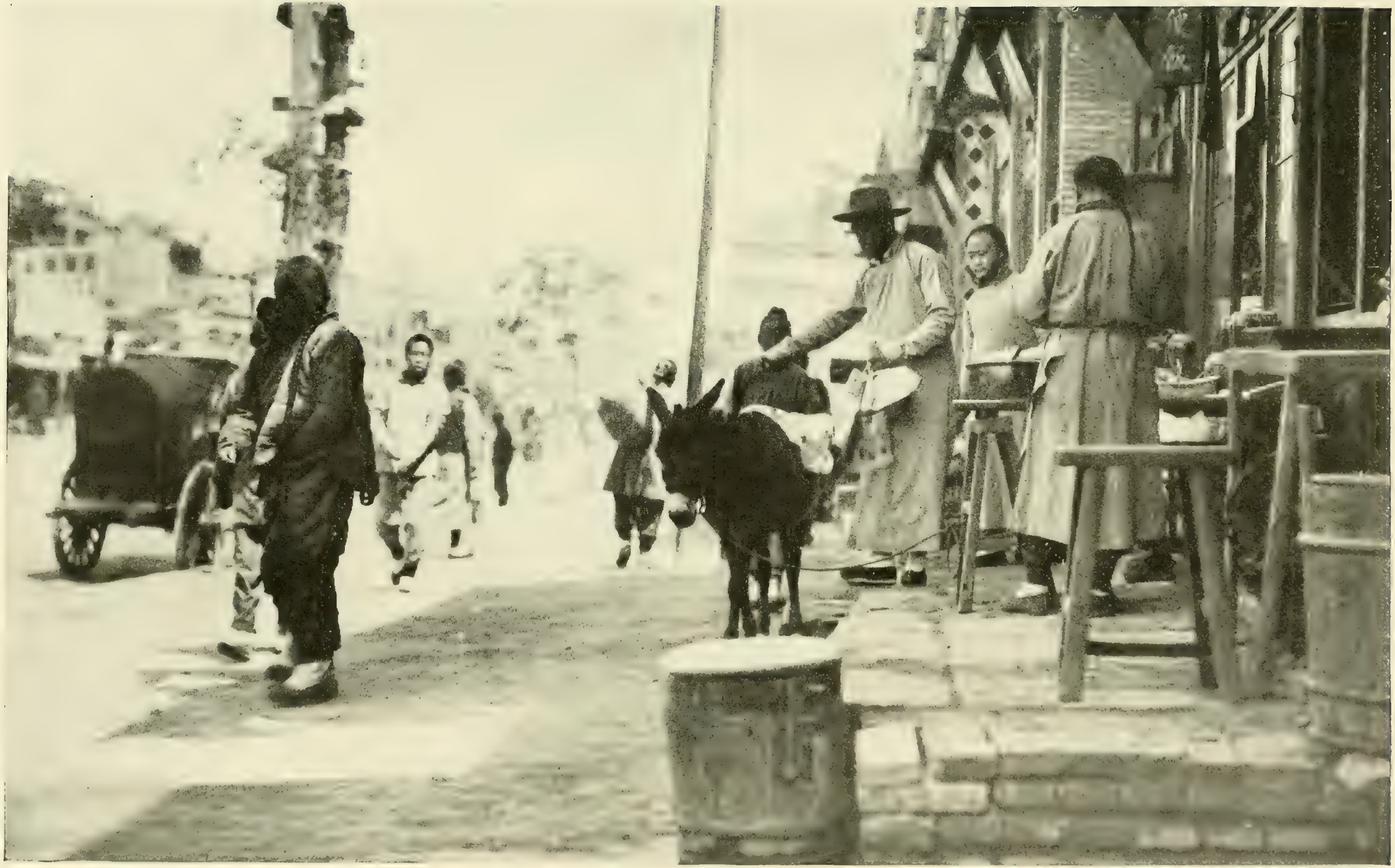
ONE OF THE WIDE NEW STREETS OF PEKING, WITH A GATEWAY IN THE BACKGROUND

The many gates of the city are closed from sundown to sunrise, and nothing short of a governor's edict will enable one to get in or out during those hours. Note the popularity of the wheeled vehicle.

One writer discovered that the beauty of Fifth Avenue lay in its skyline of magnificent cornices. The streets of Peking have neither skyline nor cornices. Were it not for the multitudinous traffic upon them, they would remind the traveler of the sprawling, God-forsaken streets of an American mining town, infinitely extended. The trees which line the central roadways are all of such recent planting that this city of the centuries suggests the latest offspring of an energetic real-estate agent.

BUILDINGS THAT SHOUT WITH BARBARIC COLOR

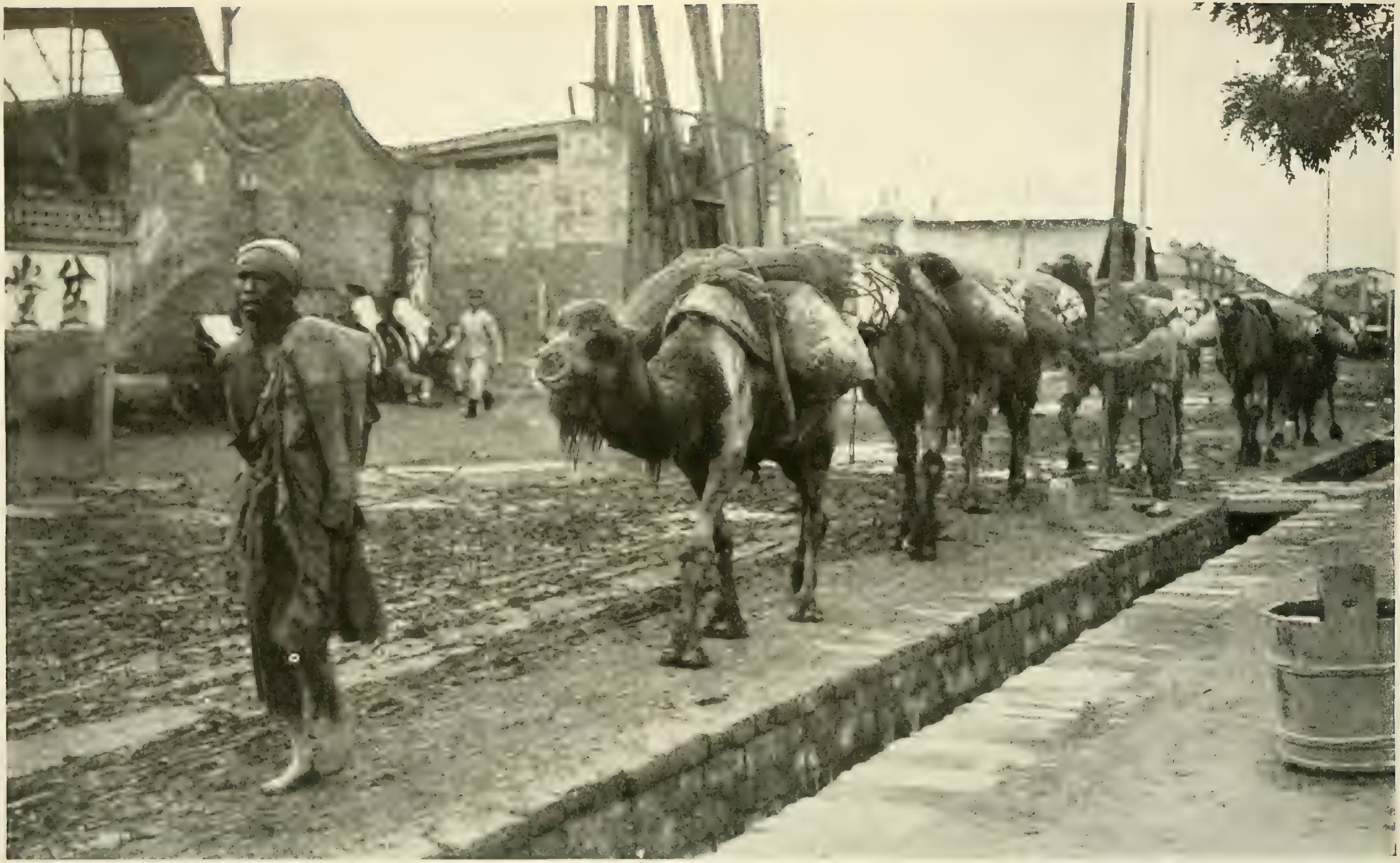
As soon, however, as the traveler enters a gateway, through one of the gray or dingy brick-red walls, he comes suddenly and unexpectedly upon a palace, silent in the sun, yet shouting aloud in the barbaric brilliance of its color—crimson columns, friezes of flashing gold on green, wide-flaring roofs of resplendent yellow, all above a triple-terraced platform of marble, white like snow. Or it may be a many-courted temple, where a hundred lamas drone chants before an inscrutable Buddha; or a wooded park, where emperors once took their pleasure, where century-old cedars shade pathways and pleasant lakes. Shrines nestle in mulberry groves and hillocks are crowned by Buddhist topes, from whose marble bases one looks out over the roofs of the city—miles and miles, it seems, of gray roofs—and in the center of all a great splotch of imperial yellow, the once "forbidden city," where dwelt the emperor,



Photograph by Alexander Stewart

PEKING SHOPS ARE NOTED FOR THEIR CONTENTS RATHER THAN FOR THEIR ARCHITECTURAL EXTERIORS

The broad, straight highways are lined with insignificant one-story buildings and gray, windowless houses, with here and there a stretch of dull-red, plastered fence wall.



Photograph by Alexander Stewart

A CAMEL CARAVAN ARRIVING IN PEKING

Mule-mounted equestrians; soldiers on sturdy Manchurian ponies; portly old gentlemen astride diminutive asses; autos, cabs, rickshaws, bicycles, and caravans of camels out of the north—all go up and down the streets of Peking on legitimate business, not in a circus parade!

his sons and his daughters, his wives and his concubines.

Even the foreigners in Peking have fallen into this habit of surrounding themselves with blank and unexpressive walls; so that behind such barriers are found not only temples and parks and palaces, but colleges and churches and legation buildings.

THE UNEXPECTED IS THE KEYNOTE OF CHINESE ARCHITECTURE

Indeed, the unexpected is the essence of Chinese architecture. One can never get a complete view of a temple or a yamen unless there be some adjacent hill or tower or city wall from which to view it.

On level ground only the outer wall and the entrance are seen, and when these are passed one sees only the first court, with its more elaborate entrance to the second; and so on through three, four, five, six, it may be seven, courtyards, each complete in itself, each with a central building, through which one passes to the court beyond, each building larger, higher, or more decorative than the last, each breaking upon the beholder with a fresh surprise.

This arrangement, admirable as it is in producing sudden and increasing wonder and in allowing the architect to work up to a climax through a series of surprising effects, fails at times in its lack of vista. This is notably true of smaller buildings, which sometimes appear cramped and huddled, sometimes cosy and pleasing, seldom imposing. But in Peking, where Chinese building has reached its most magnificent development, there is a fine spaciousness in the courtyards, so combined with massive structure, restraint, and dignity of line and simple barbaric coloring that one fairly catches his breath in admiration at the strength and power of it.

This is especially true of the imperial palace, which is perhaps the most effectively arranged group of buildings in all China. Gateway after gateway, each gate a palace in itself, pillared, roofed, and buttressed, leads into a wide-lying courtyard whose placid expanse dwarfs ancient trees around its edges into seeming shrubs.

Each court is a unit of grandeur and magnificence in itself, and at the same time an integral member of a series leading up to the marble-terraced courtyard of the great throne hall.

Although the imperial palace is the finest architectural ensemble in the capital, it is in the Temple of Heaven, or, as the Chinese call it, "The Happy Year Hall," where the emperor used to offer annual supplication to Heaven for a prosperous new year, that we find a single building in which the simple dignity of Chinese architecture is at its best.

This is perhaps the most frequently pictured of all Chinese buildings. Every Chinese photographer displays it in his window; every vender of post-cards features it; every book on China reproduces it; it is probably the one view of things Chinese which every Westerner who knows anything at all about China has seen. Yet I know of no building which most pictures fail so pitifully to portray.

In the usual print or photograph it is squat, plump, and heavy, like a German wedding cake. In reality it is strong and gracious and mighty, and when the visitor comes into its presence he has come into the presence of a great peace.

There it stands on a vast platform, its base above the tree-tops. Above the platform is a threefold marble terrace, white and circular; then red columns, green-gold friezes, and three fine, flaring, circular roofs, with shadows and mystery under the eaves, and the roof tiles not crying-yellow, like those of the imperial palace, but deep, deep blue.

It is the "quietness and confidence" of which Isaiah speaks, made visible in wood and tile and marble.

THE ELEMENT OF SURPRISE LEADS CHINESE ARCHITECTURE ASTRAY

But it is just in this, its chief masterpiece, that Chinese architecture, in its insistence on the unexpected, has gone farthest astray. The temple is in the midst of a huge park; acres of lawn and dense groves of ancient evergreen surround it; there is every condition conducive to the most effective use of distance and vista; yet the temple approaches are so clouded and cluttered with cheap, tawdry, decadent gateways that nothing of the temple itself is seen until one actually stumbles upon it through the last gate.

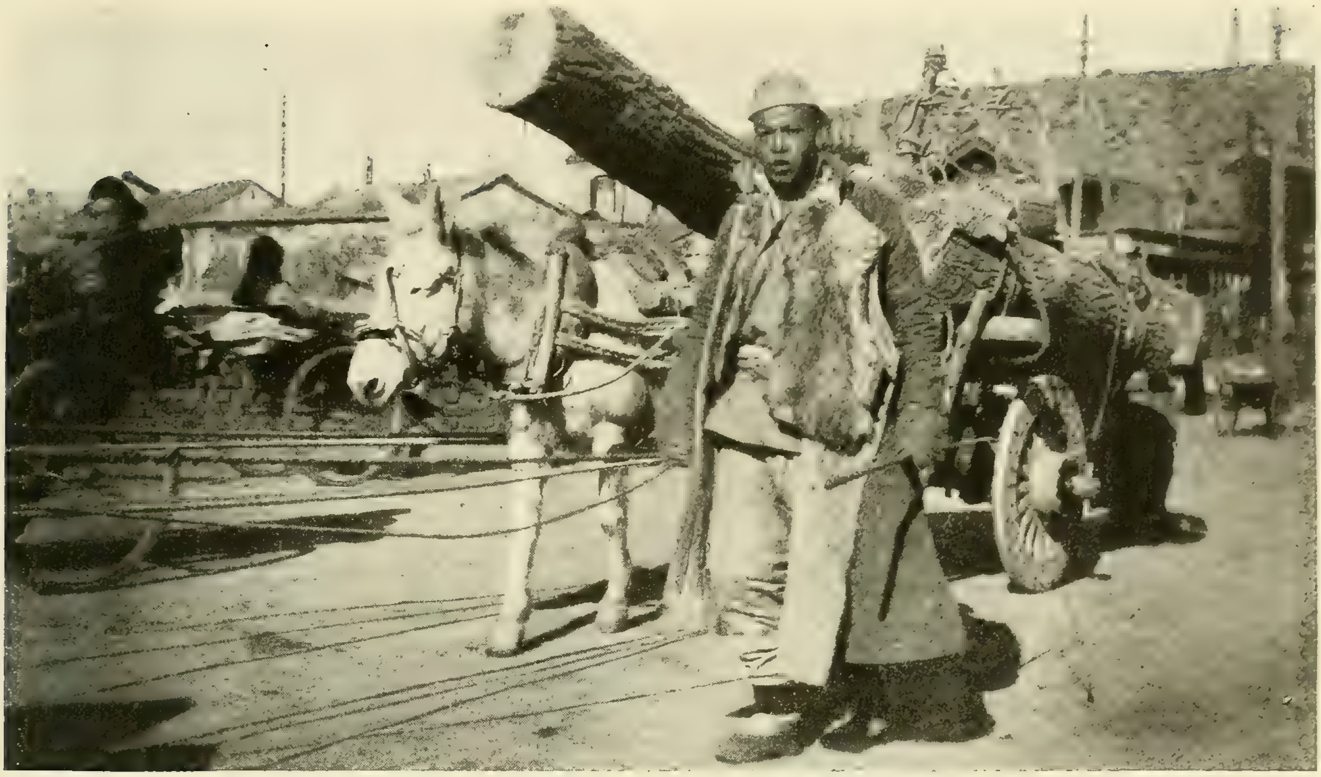
CAMELS CEASE TO BE POETIC "SHIPS OF THE DESERT" IN PEKING: THEY ARE COMMONPLACE BEASTS OF BURDEN

They are fine, shaggy, brown beasts, with an occasional white one—rather dirty white. Usually their caravansary for the night is the pavement in front of the shop at which they deliver their merchandise.

Photographs by J. A. Muller

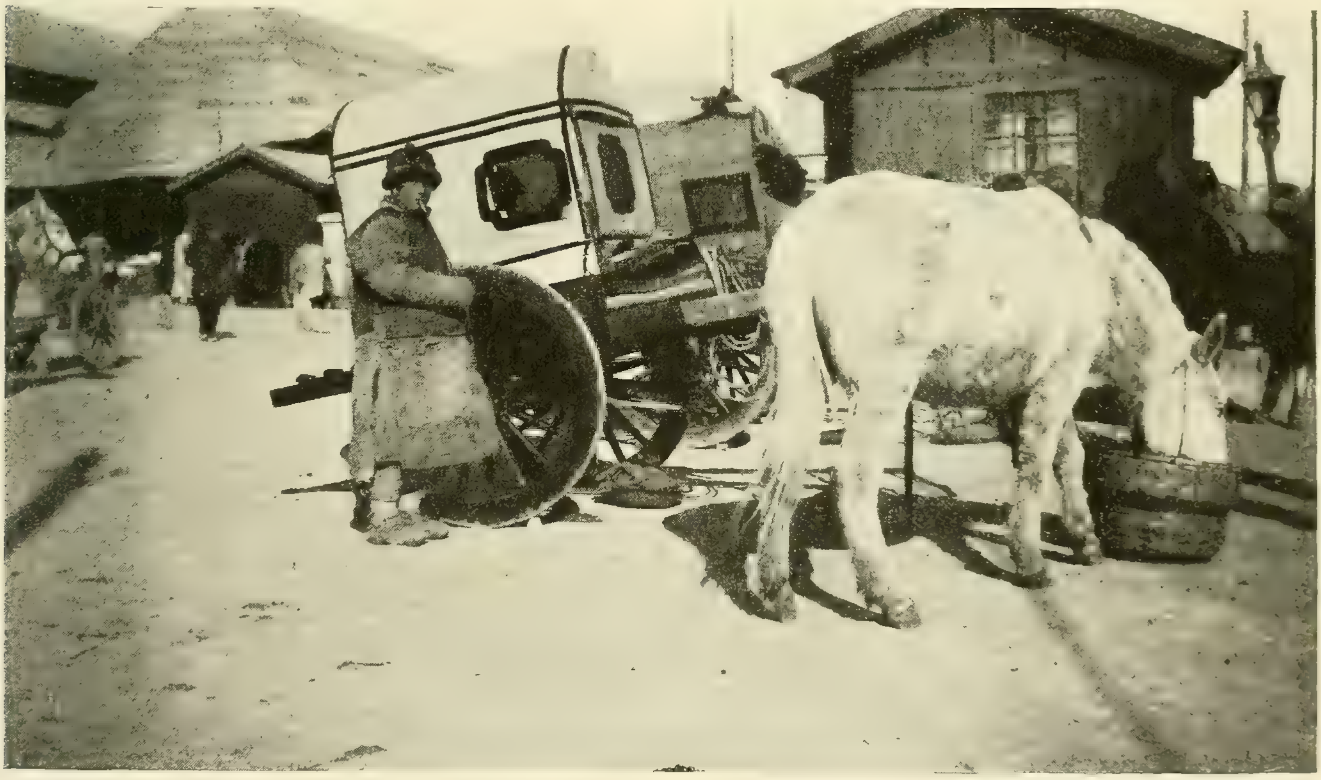
"OTHER PECULIAR BREEDS OF THE EQUINE FAMILY"

Thus speaks a historian of the Tatars in describing those "elusive little creatures of Peking which are neither horse, mule, nor ass, but subtle, indistinguishable mixtures" (see text, page 335).



THE BURDEN FREQUENTLY SEEMS OUT OF ALL PROPORTION TO THE SIZE OF THE BEARER

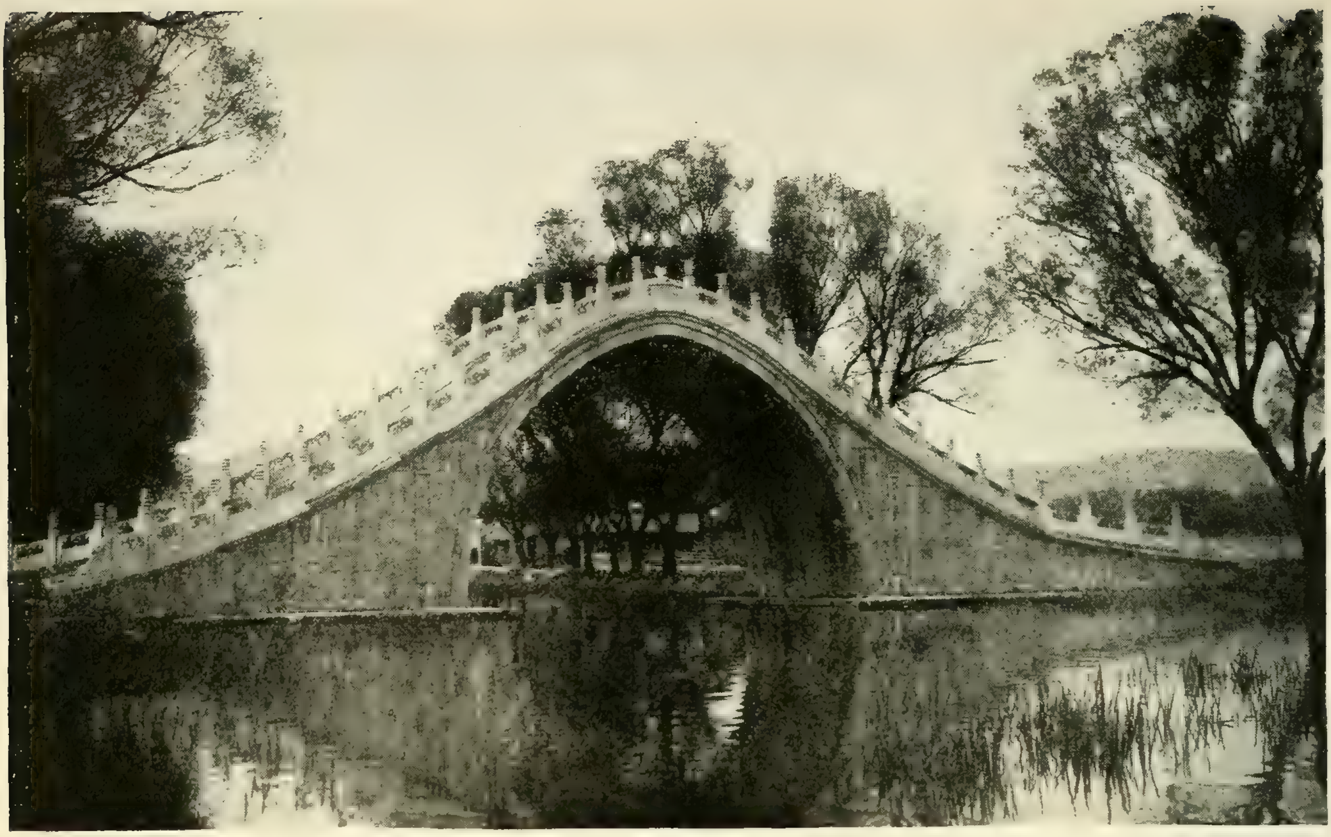
Along Peking's highways of turf go triplets of donkeys hauling timber, brick, coal, and crockery. Note the rope traces by which two animals are harnessed in front of the beast next the cart.



Photographs by J. A. Muller

ALMOST AS FASCINATING AS ITS CAMELS AND DONKEYS ARE THE CARTS OF PEKING

Another type of two-wheeled vehicle commonly seen in the streets of China's capital is shown in one of the color plates of this number. Before the introduction of the rickshaw, these were the only vehicles of Peking.



Photograph by Dorothy D. Andrews

CAMEL-BACK BRIDGE IN THE GROUNDS OF THE IMPERIAL SUMMER PALACE

Note the elaborately carved white marble railings.

The spirit of the building demands that the beholder draw near gradually and with reverence, not pop upon it like a jack out of the box.

THE DRAGON SCREEN A MARVEL OF PICTORIAL ART

Another of the unexpected treasures of Peking is the dragon screen. It is barely mentioned in some of the guide-books and not mentioned at all in others. It is hidden behind a hillock in the winter palace grounds, and nine-tenths of the visitors to Peking walk within a hundred yards of it and never dream of its existence.

It is a wall perhaps twenty feet high and a hundred long, faced completely with tile cast to represent nine life-size dragons in bas-relief, of various colors—yellow, purple, buff, maroon, orange—dancing gaily above emerald billows, against a pale-blue sky.

Doubtless one should not speak of "life-size" dragons; but these creatures of the screen are the alivest dragons one may ever hope to see; they give rise to the feeling that if a dragon lived he would be exactly like one of these.

Most sculptured Chinese dragons are lifeless, angular beasts; but here there is an almost un-Chinese vigor and audacity in the spring and twist of the lithe bodies. They leap, whirl, lunge, and writhe until the spectator steps back, half afraid that they will come tumbling off the screen, striking at the unwary with their sturdy claws. There are, I believe, critics who teach that plastic art should never undertake to portray moments of activity. If this be correct, the dragons stand condemned; but if the sculptor may ever rightly give us life in its vivid, moving moments, here is a masterpiece.

THE WOMEN OF PEKING A SOURCE OF SURPRISE

Dragons and donkeys, fanes and thoroughfares, caravans and castles, do not exhaust the list of things unexpected which await the traveler in Peking. There also are the people.

The first strikingly surprising custom among them is that the women wear skirts. To a traveler fresh from America this would seem as it should be, but to one resident in the land of trousered women it appears almost immodest!

They not only wear skirts; they further approximate Western usage by painting their faces. Broadway is nature itself in comparison; for in Peking there are no light, artistic touches, but bold cheek circles of red upon frankly whitened faces—cosmetics unabashed.

These are the Manchu women. The Manchu men, descendants of the roving Tatars, go futilely about this spacious city of their fathers balancing trick birds upon their wrists; for, now that the empire is no more, their only occupation, that of ruling it, is gone, and the conquered Chinese, immemorial city-dwellers, are masters of the capital. It is a significant illustration of the age-old ability of the Chinese to absorb and enervate their conquerors.

A CITY OF HOPES AS WELL AS OF SPLENDID MEMORIES

It is not only at the Manchu dwellers of Peking that the visitor is surprised. There is that among the Chinese which is equally a cause for astonishment; for, although Peking is the recognized center of the reactionary North, it is none the less the center of the New China.

One who is familiar with Chinese political and social conditions expects to find Peking corrupt and contented; nor is he disappointed. In the palaces, the government offices and the multitude of barracks which surround the city, some self-seeking gangs of grafters who have plundered the Chinese people since the overthrow of the monarchy are still to be found. But the age-long Chinese tradition which would have centers of government also centers of learning has, in spite of reactionary rulers, filled the capital with thousands of eager students, for whom Peking is not only a city of splendid memories, but a city of hopes.

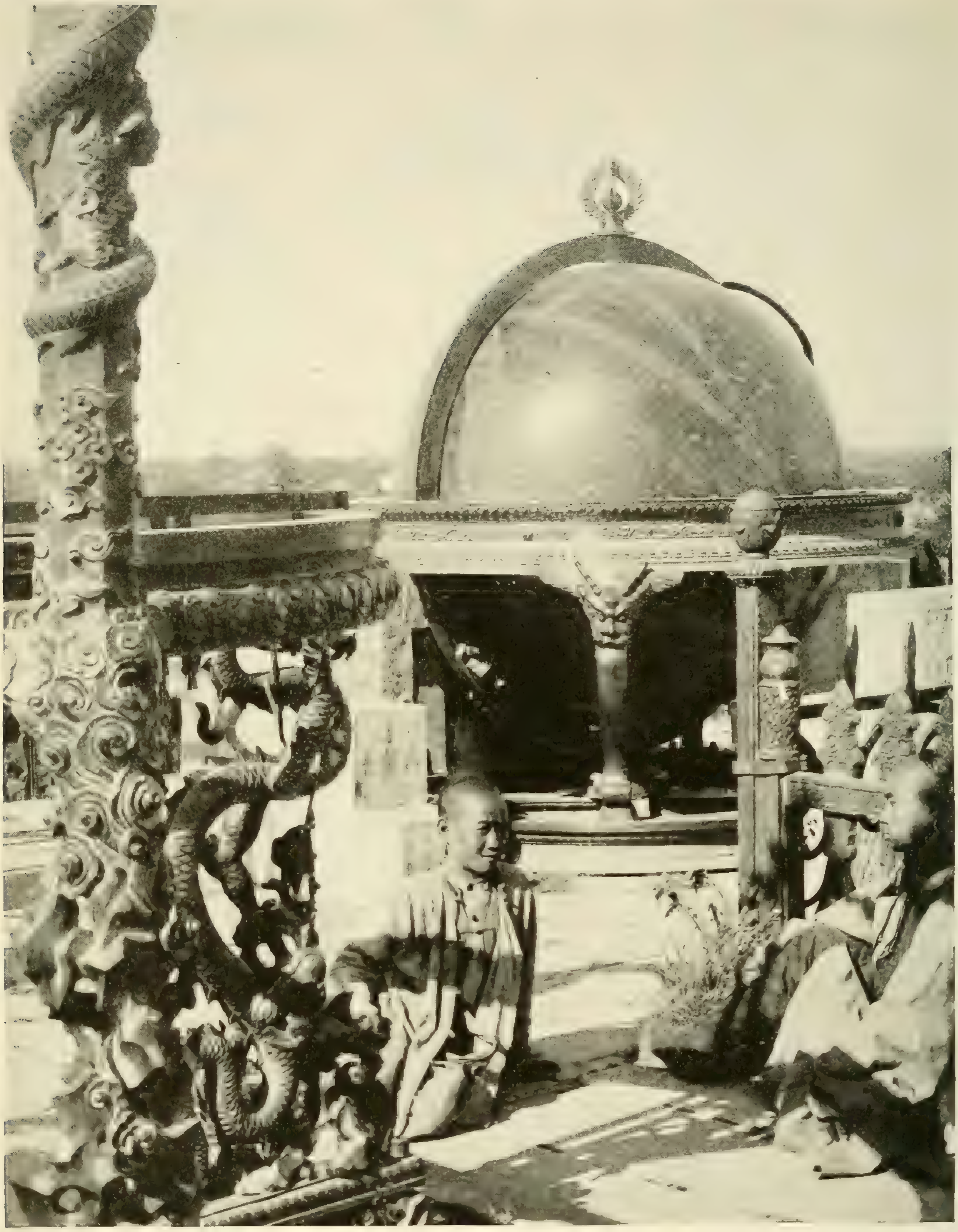
There is the Peking University, a first-class American mission institution; the University of Peking, an equally high-grade government school; the new Chin Hwa College and a score or more of lesser schools.

It was among the students and teachers of Peking, particularly among those of the universities, that the recent liberal movement in China started, and continued in the face of wholesale arrests and suppression by corrupt officials. By the Peking students the movement has been spread throughout the land, until now, for the first time in Chinese history, there is a really united national public opinion,

Photograph from J. A. Muller

THE PORCELAIN PAGODA, NEAR THE SUMMER PALACE

Most Chinese pagodas are built of brick, while similar structures in Japan, because of the frequency of earthquakes, are built of wood.



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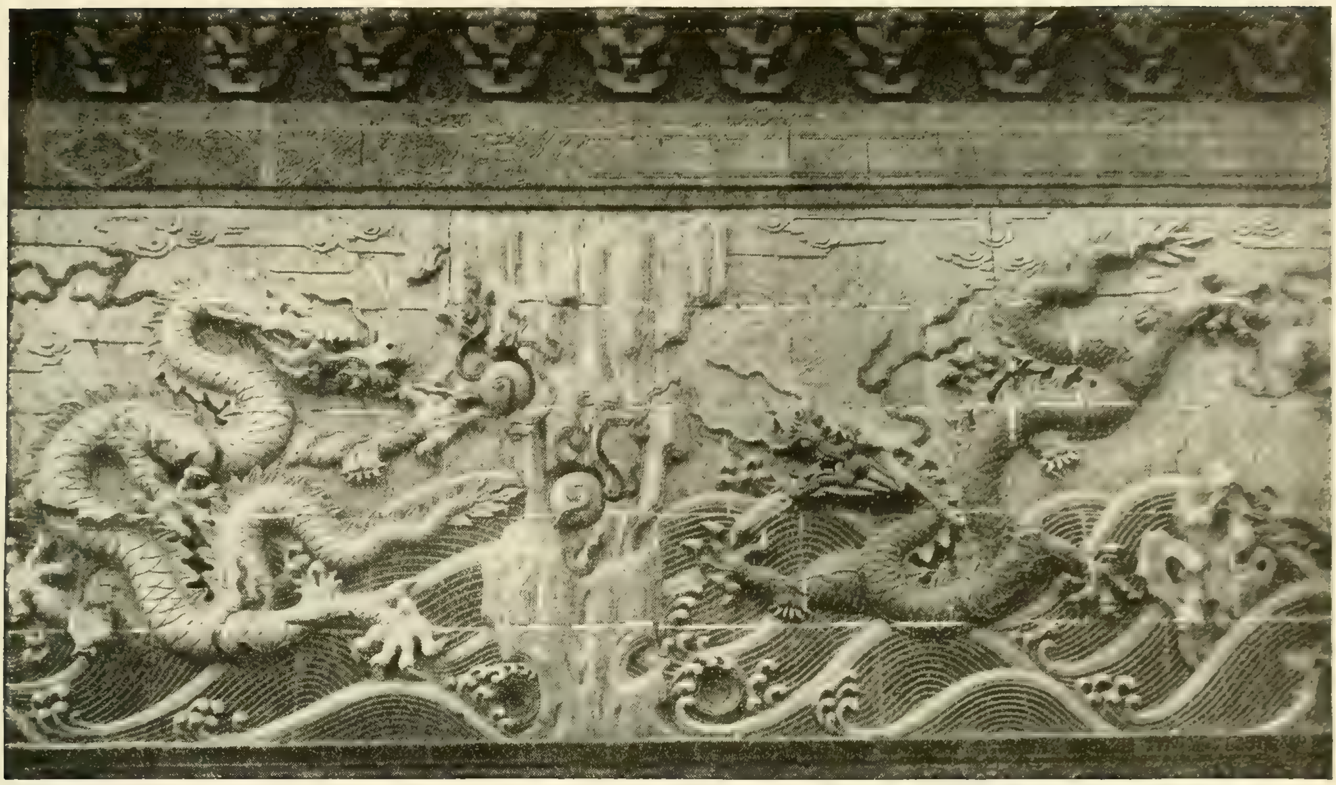
ASTRONOMICAL INSTRUMENTS IN THE OLDEST OBSERVATORY IN THE WORLD, FOUNDED BY KUBLAI KHAN, AT PEKING, IN THE THIRTEENTH CENTURY

Most of the bronze instruments of today were made by the Jesuit priest Verbiest from the original Chinese models. When Peking was looted in 1900, some of the finest of these instruments were seized by the Germans and sent to the imperial gardens at Potsdam. By a provision of the Treaty of Versailles, Germany undertook "to restore to China, within twelve months from the coming into force of the present treaty, all the astronomical instruments which her troops in 1900-1901 carried away from China, and to defray all expenses which may be incurred in effecting such restoration, including the expenses of dismounting, packing, transporting, insurance, and installation in Peking."



Photograph by J. A. Muller

A MARVEL OF PICTORIAL ART, A SECTION OF PEKING'S DRAGON SCREEN

These horrendous creatures in bas-relief tile-work of various colors—yellow, purple, buff, maroon, and orange—dance gaily above emerald billows against a pale-blue sky. The screen is 20 feet high and 100 feet long (see text, page 344).

directed not only against foreign aggression, but against Chinese governmental peculation as well.

To find Peking the source and center of this forward-looking movement for reform is not the least of the surprises which await the visitor to the capital.

Indeed, to most Western visitors the most unexpected thing of all is to find that the real China, the China which holds, potentially, the future of the Orient in her hands, is to be found in these colleges and in the technical schools and hospitals and churches, which look so like churches and hospitals and technical schools at home that the tourist ofttimes fails utterly to see them or their significance in his search for the romance and glamor of antiquity.

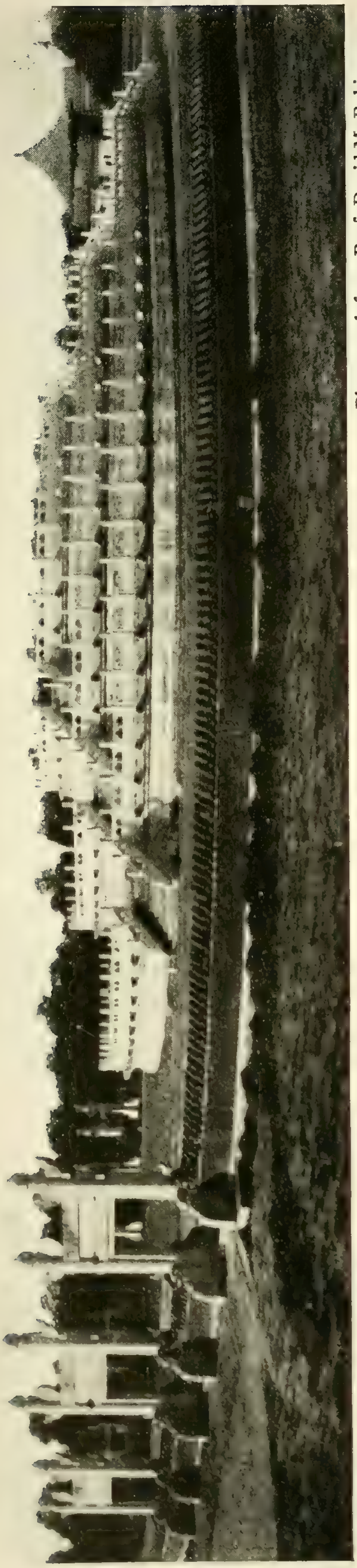
LAMA TEMPLE ADJOINS THAT OF CONFUCIUS

The tourist is not to be blamed for his blindness, however. He can see colleges, churches, and hospitals a plenty in the West; but a Lama temple, or a Confucian hall of classics, or a Taoist shrine is not to be come upon in Boston or Milwaukee. In the abundance of these relics of a passing age Peking, above all Chinese cities, is the queen.

In the great Lama temple in the northwest corner of the city, with its seven sun-lit courtyards and its hundred deities, one may see on any forenoon threescore yellow-coated novices droning the morning lesson, cross-legged, before the many-handed God of Mercy, or half a dozen monks in purple palliums celebrating a Lamist mass with rice out of a silver bowl and wine from a gold-mounted chalice fashioned from a human skull.

The smoke of incense fills the nostrils of the placid Buddhas who sit above the high altar; countless little cup-shaped butter lamps are lighted, and to the accompaniment of drum, gong, and cymbal the monotone of the celebrant rises to a wild, weird chant.

Just across the street from these idolatrous lamas, who represent the debased Buddhism of Tibet and who minister chiefly to the Mongols of the North, is the quiet, shady close of the temple of Confucius, wherein are neither monks nor idols.



Photograph from Prof. David M. Robinson

THE ALTAR OF HEAVEN OF THE TEMPLE OF HEAVEN: PEKING

Arranged in three terraces of white marble, the altar is reached by 27 steps in three flights of nine steps each (see text, page 341). The whole plan is developed with mathematical exactness and with reference to lucky numbers. Here, before the days of the Republic, the Emperor used to prostrate himself annually. On the occasion of this ceremony he was accompanied by thousands of officials, all gorgeously gowned.

Here the master is represented by a simple wooden tablet bearing the letters of his name. It is but little more exalted than the tablets of the four notable philosophers and the twelve particular disciples who share the hall with him, and the two and seventy famous scholars whose names are recorded in the long, low building on the sides of the court.

To this memorial to China's men of learning come educators and officials at the spring and autumn equinox to offer sacrifice. The ceremony, say many Confucianists, is not one of worship, but rather of grateful remembrance of the author of learning and his distinguished followers, whose moral maxims have been at the basis of China's life for almost three millenniums.

THE GAY THRONGS AT A NEW YEAR FAIR

While the Lama temple stands for the decadent worship of Mongols and Manchus and the Confucian temple for the cult of Chinese scholars, it is in the Taoist temples that one finds the traditions of folk superstition still alive.

Here firecrackers are lighted before the God of Valor, paper ingots of gold burnt before the God of Wealth, and joss-sticks offered to the Guardian of the Eastern Mountain. Here, also, at the New Year season, are the fairs and, if the temple grounds be large enough, the horse-races.

Enterprising restaurateurs set up matting booths along the course, where the holiday-makers sip tea and munch peanuts and bread while they watch the men of the North ride furiously by on slender mules or stocky Manchurian ponies.

Meanwhile the temple courts are filled with mountebanks, jugglers, magicians, venders of figs, cigarettes, and candied rice balls, and sellers of fans, ribbons, mirrors, and tinsel jewelry, proprietors of peep-shows, and professional story-tellers, like medieval troubadours, who gather a crowd to hear an old romance, half told, half chanted, to the sporadic accompaniment of drum or cymbal. In the midst of an exciting episode these story-tellers pause and politely inform their auditors that the tale will be continued after another collection!

It is likewise to the temple courts that merchants on bazaar days bring their wares—wares not only to catch the pennies of the populace, but also the dollars of the tourist: vases of cloisonné, beads of amber, bottles of jade, lanterns of silk painted daintily with gold fish and lotus flowers, bronzes, none of which, you are solemnly assured, is later than the thirteenth century, and embroideries into which the souls of countless nameless artists have been stitched.

Sinuous dragons of gold, peach blossoms of pink, butterflies of every hue, are wrought upon silks of blue, green, and crimson.

Now that China has adopted gray republican simplicity, Mandarin coats, court dresses, whole wardrobes of impecunious Manchus, have found their way into the hands of the dealers. Here are opera cloaks for milady, and gay handbags and pillow-covers; for the cunning dealers have learned the taste of the West and have converted sleeve bands into table-runners and skirts into piano scarfs.

Far less costly, but no less significant to one who would interpret the life of the Orient, are the toys; for toys are the symbols and sacraments of the unity of mankind. It would be impossible for one to walk through the bazaars of Peking and not discover that the children of China are just like children the world over. Toys of the same sort delight them all. Here are flutes and drums, tops and diabolos, diminutive sets of furniture and dishes for a household of dolls, jointed bamboo dragons wriggling on a stick, tufted camels and gaudy tigers of painted canvas stuffed with sawdust, and little fuzzy dogs, of the Peking variety, which bark huskily when you squeeze their stomachs.

A MODERN CHINESE WOMAN AN IDEAL HOSTESS

If the children of China are like the children of the West, the grown-ups cannot be quite so different, as we sometimes imagine. Indeed, in this city of antiquity one stumbles upon bits of the most extraordinary social modernity.

My host took me to call one afternoon at the home of a noted Chinese physician. He was away at the time, in the interest of the anti-opium movement, so his wife received us.

For a Chinese woman to receive two gentlemen in the absence of her husband is in itself something extraordinary. It is considered very modern for a Chinese wife even to be present when her husband receives guests; but Mrs. Tsen acted the hostess as graciously and as deftly as the most socially experienced hostess of the West. She poured tea, and when the conservation turned to Chinese music she went to the piano and showed how an ancient Chinese melody could be expressed in Western notation; then she sang it for us, without the least embarrassment.

She told how her home had become the gathering place for the younger Chinese in the professions in Peking, especially those who had returned from study abroad. Then she pointed to the phonograph in the corner. "Oh! yes," she exclaimed, "of course I dance; we frequently have phonograph dances for our young Chinese friends."

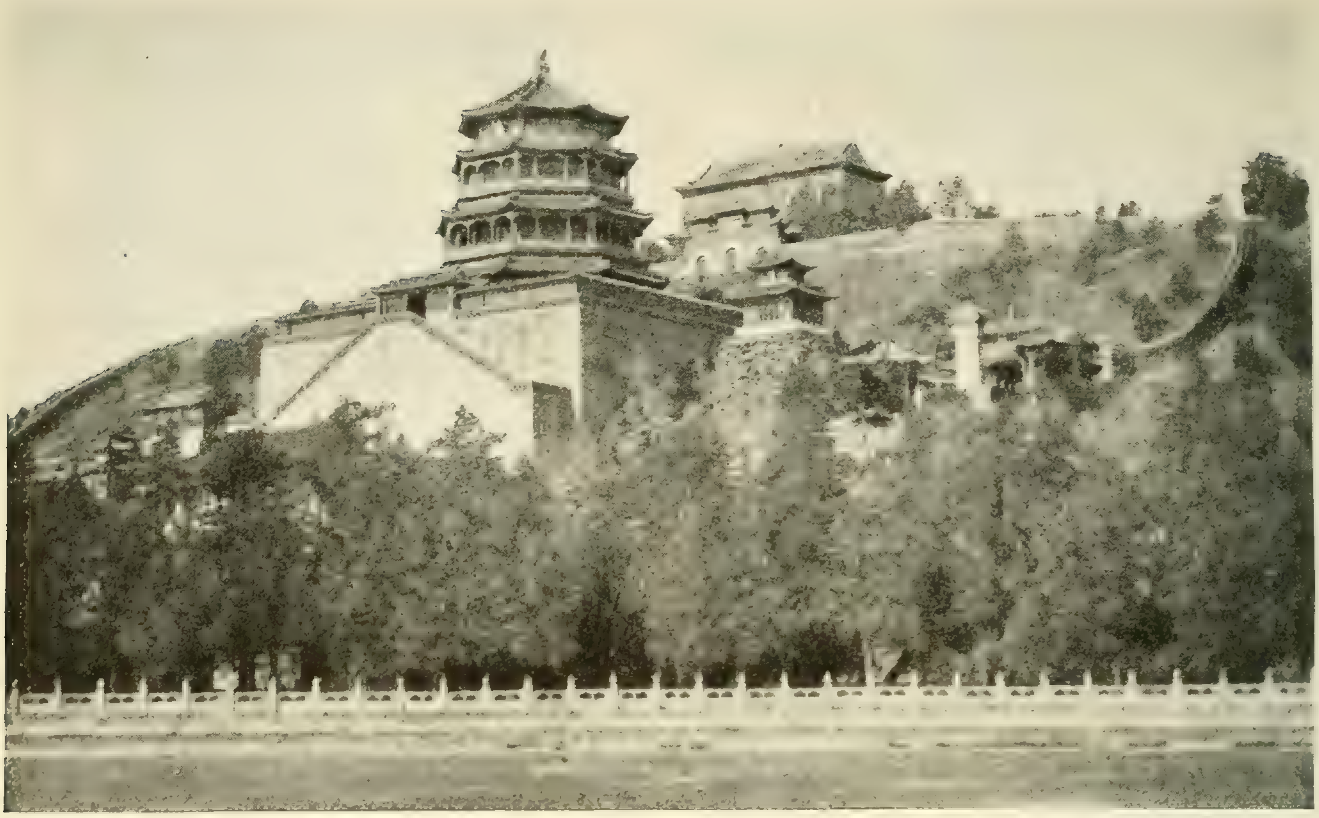
I had to pinch myself to be sure that I was in China, in a Chinese home, talking to a Chinese woman, in the heart of the conservative North. Phonograph dances within four hours of the Great Wall! After this nothing in Peking was unexpected.

AMONG THE BEAUTIFUL HILLS TO THE WEST OF PEKING

The initial reaction of the visitor to much that he sees in Peking, as I have hinted, is apt to be one of disappointment, followed by surprise, then by delight and admiration.

When he leaves the city gates and goes to the western hills, there is surprise and delight, but no initial disappointment. Perhaps that is because he has heard so much of the city and so little of the hills that he goes expecting nothing; perhaps it is because the hills, in spite of their barrenness, are altogether lovely.

However that may be, half the charm of Peking is not in Peking at all, but in its surroundings. Shrine upon shrine, palace upon palace, lie without the city walls. They dot the surrounding plain; they nest on near-by wooded knolls; they lodge in crevices of the wide-circling, treeless hills—those quiet hills, slow curving, like billows after storm; verdant and velvety in summer; in winter bare



Photograph by J. A. Muller

THE SUMMER PALACE, ON THE SLOPE OF THE MOUNTAIN OF TEN THOUSAND ANCIENTS

"The stately pleasure dome of the poet's imaginings, with its graceful, spiry, triple-roofed pavilion set upon a massive four-square base of stone, towering above porticos and pailous, summer-houses, grottos, islands, lily ponds, and bridges of marble" (see text below).

and red-brown, deepening into twilight purple.

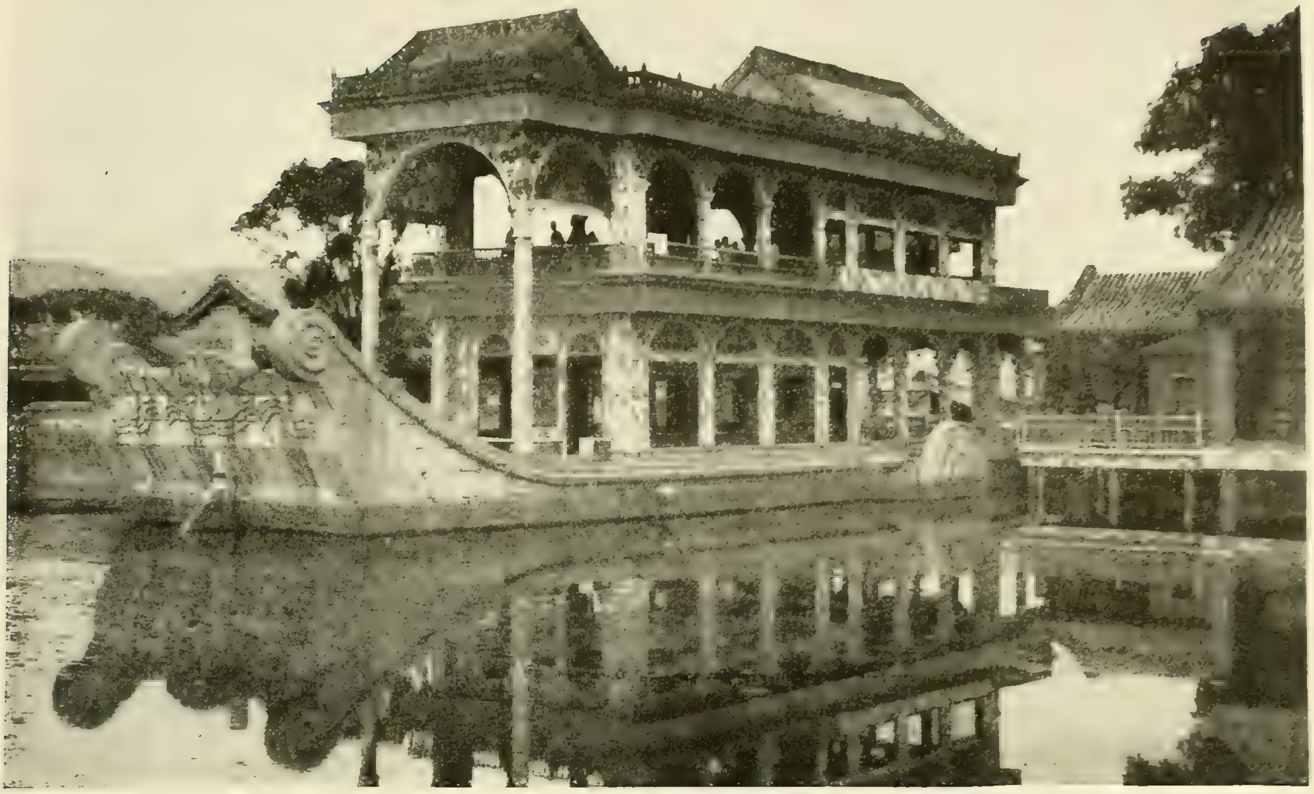
My host knew well the charm of the hills; so when, in my first rash judgment on the city, I hinted that I found it dusty and sprawling and not as I expected, he took me off to the hills. That was before I had seen the blue peace of the Temple of Heaven, or the yellow splendor of the Forbidden City, or the many hues and the agility of the rampant dragons; for he knew that, to understand Peking and to love it, one must feel its glory in the setting of the hills, not see it through the critical dust of the streeted plain.

So on the morning after my arrival we put ourselves into two rickshaws and our quilts and blankets into a third, for every provident traveler in China carries his bed with him, and away we went, three and a half miles, at a dog trot, to the western gate, thence seven more over the willow-shaded highway to the Mountain of Ten Thousand Ancients, a pleasant wooded hillock, deep green against the bare brown of the January hills.

Before it lies a broad lake and on its slope stands the far-famed Summer Palace. Though several centuries more recent than Kublai Khan, this is indeed the stately pleasure dome of the poet's imaginings. Kublai might well have decreed it, with its graceful, spiry, triple-roofed pavilion set upon a massive four-square base of stone, towering above porticos and pailous, kiosks and summer-houses, grottos and labyrinthine passages, islands and lily ponds, bridges of marble, and grotesque dragons cast in bronze.

There was ice three feet thick on the lake where lotus flowers bloom in summer; but the sun shone gloriously, illumining golden roofs and deepening the foliage of pine and cedar, and on the hill-top behind and above the palace shone a temple all of glazed tile, mottled green and yellow, glowing like a jeweled crown.

The wintry weather, coupled with the one-dollar admission fee, gave us the whole vast inclosure to ourselves. Here I had my first opportunity in China to eat my lunch in the open unsurrounded by a concourse of the curious!



Photograph by Edgar K. Frank

THE MARBLE BOAT ON THE LAKE AT THE SUMMER PALACE, NEAR PEKING

"It was all so pleasant and sunny and spacious and peaceful, so like a garden in wonderland, that I could forgive even that most absurd of all architectural absurdities, the notorious marble boat, built by the late Empress Dowager as a pleasure-house."

It was all so pleasant and sunny and spacious and peaceful, so like a garden in wonderland, that I could forgive even that most absurd of all architectural absurdities, the notorious marble boat, built by the late Empress Dowager as a pleasure-house upon the lake.

CLASSIC LEGEND OF THE BEACON TOWERS

We took to our rickshaws again in the afternoon and away we trotted toward the hills for seven miles more, past the Jade Fountain Pagoda, past leisurely camel trains, beyond the high road and the dust of tourist autos, under the shadow of somber, square, beacon towers, marching in single file, at half-mile intervals, out over the hill crests.

The Chinese have a classic legend about these beacon towers. It is the Oriental counterpart of Æsop's "Wolf! Wolf!"

Once upon a time the emperor, so runs the story, was deeply in love with a melancholy beauty who would not smile. In vain he tried to banish her ennui until he hit upon the scheme of lighting the beacons.

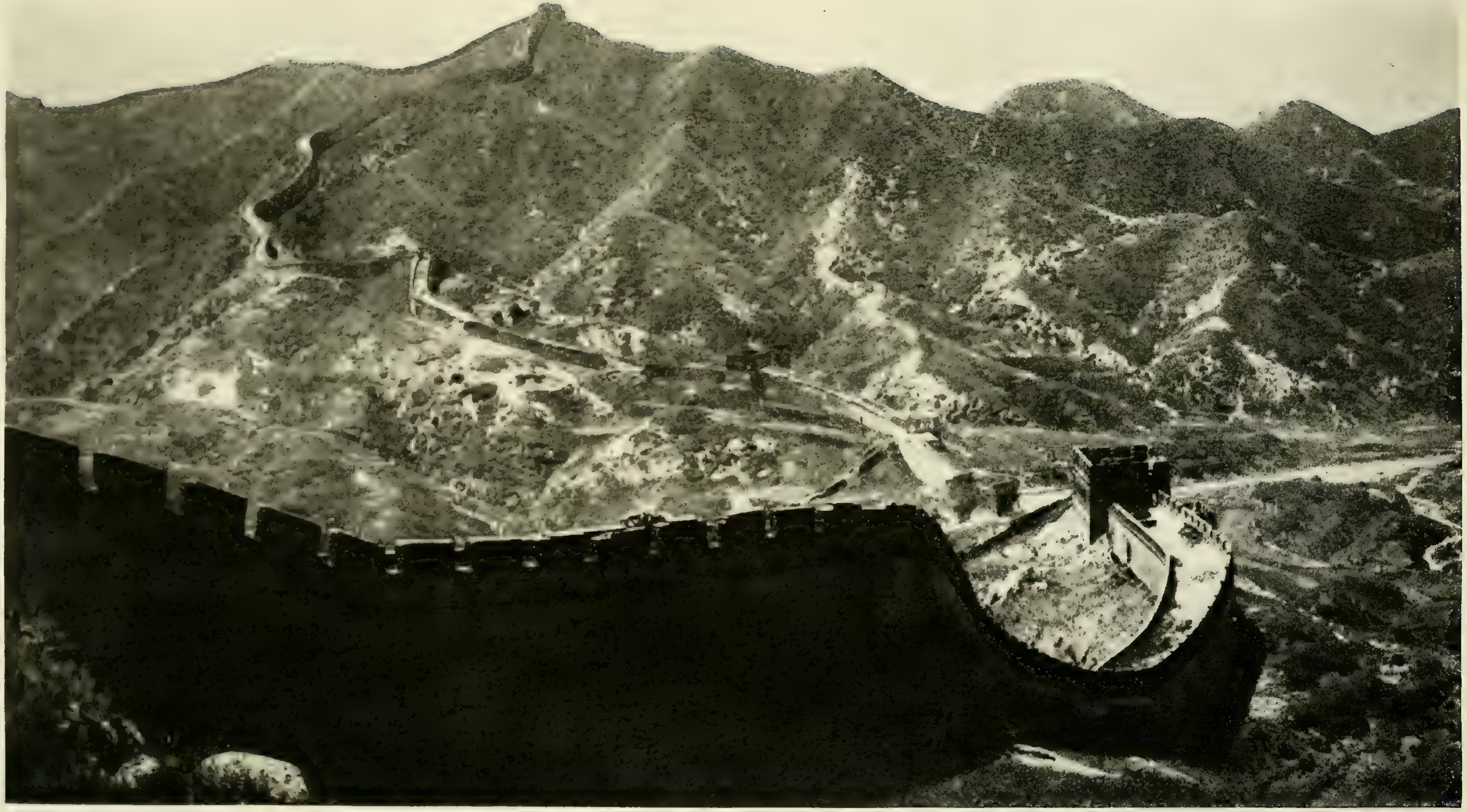
Flames leaped up from tower after tower, rousing the country-side; the host assembled. Horsemen on shaggy ponies from the northern plains, crossbowmen in jointed bamboo armor, scimitared warriors with grim painted faces, poured into the capital.

The imperial lady was delighted with the pageant, and when she saw the disgust upon the faces of the clansmen as they learned they had been summoned to make a Dulcinea's holiday, she even smiled.

Not long after this the Tatars broke over the wall. Again the beacon towers lifted their fires against the hills; but no host responded. The city was taken, the emperor slain, and the melancholy beauty carried off by the wild men of the north.

IN THE TEMPLE OF THE SLEEPING BUDDHA

We crossed the line of beacon towers, ran along a rough, pebbly lane to the foot of the brown hills; then up a short, broad avenue of ancient cedars, under a magnificent pailou of red, green, and yellow, into the courtyard of the Sleeping Buddha.



Photograph by Maynard Owen Williams

THE GREAT WALL OF CHINA FROM A POINT TO THE EAST OF NANKOW PASS

"Away it goes, before and behind; up, up the topmost ridges of the hills—bending, swinging, climbing, leaping like the supple dragons of the palace-garden screen. It undulates, it sways, it marches before, it takes the curve of the hills like a swift auto on a mountain road."

There, in the central hall of worship, he reclines upon his elbow, a bronze figure twenty feet long, surrounded by pairs of huge cloth slippers, left as votive offerings by pious pilgrims to protect him, presumably, from unhallowed tacks, should he walk in his sleep.

It is this temple, or rather the temple inclosure beyond the main building, which the Princeton Center in Peking has leased as a vacation home. There are tennis courts, swimming pools, a modern kitchen and dining-room, and space for several score cot beds in buildings once devoted to monastic uses; but the bronze Buddha sleeps on, unmindful of these innovations, and a few monks still burn incense daily before him.

After supper with the Sleeping Buddha, we crawled into our blanket bags and tried to follow his somnolent example. Our bedroom was a sort of little summer building, with the front quite open, perched high upon a rock among the pine tops. It had been the shrine of Kwan Yin, Buddhist Goddess of Mercy, but when the Princetonians moved in, the monks deemed it no fit place for a goddess! She moved out and was buried by her servitors in the hillside, back of the shrine. So we lay in her place, the crisp winter air of the hills in our nostrils, a flood of moonlight in our eyes, making a gilded mystery of temple roofs and pine shadows, and in our ears and dreams the temple bells a-calling, for all night long the little brazen bells, which hang lightly from the overjetting corners of the roof, swayed and tingled drowsily in the wind.

Next morning the sun shone as it can only in the cold, dry winter of north China, like a brand-new sun, shining for the first time from a fleckless sky, blue above bright-brown hills. It must have been in such a sun that the Psalmist sang of the little hills that skipped like lambs and the mountains like young sheep. Even the barren hills of Peking are resilient in such sunshine.

Again we set out behind our indefatigable rickshaw men, first to Pi Yun Ssu, the Temple of the Green Jade Clouds, the loveliest temple in the north, a cube of pure white marble set in a grove of lustrous, white-stemmed pines.

Then we turned toward the city again by a route different from that by which we came. It took us past the Old Summer Palace, left a ruin by the Anglo-French punitive expedition of 1860. What was once an imperial residence of unprecedented extent and magnificence is now a place of heaps, with here and there a broken arch or a shattered pillar still standing, strangely reminiscent of France or Italy; for this palace, built in the eighteenth century, in the style of Versailles, was planned by Jesuit fathers, then in high favor at the imperial court.

It is one of the most unexpected of the unexpected things in Peking, to come suddenly upon a Renaissance portal or a cluster of Ionic columns among the ruins of a Chinese emperor's pleasure house.

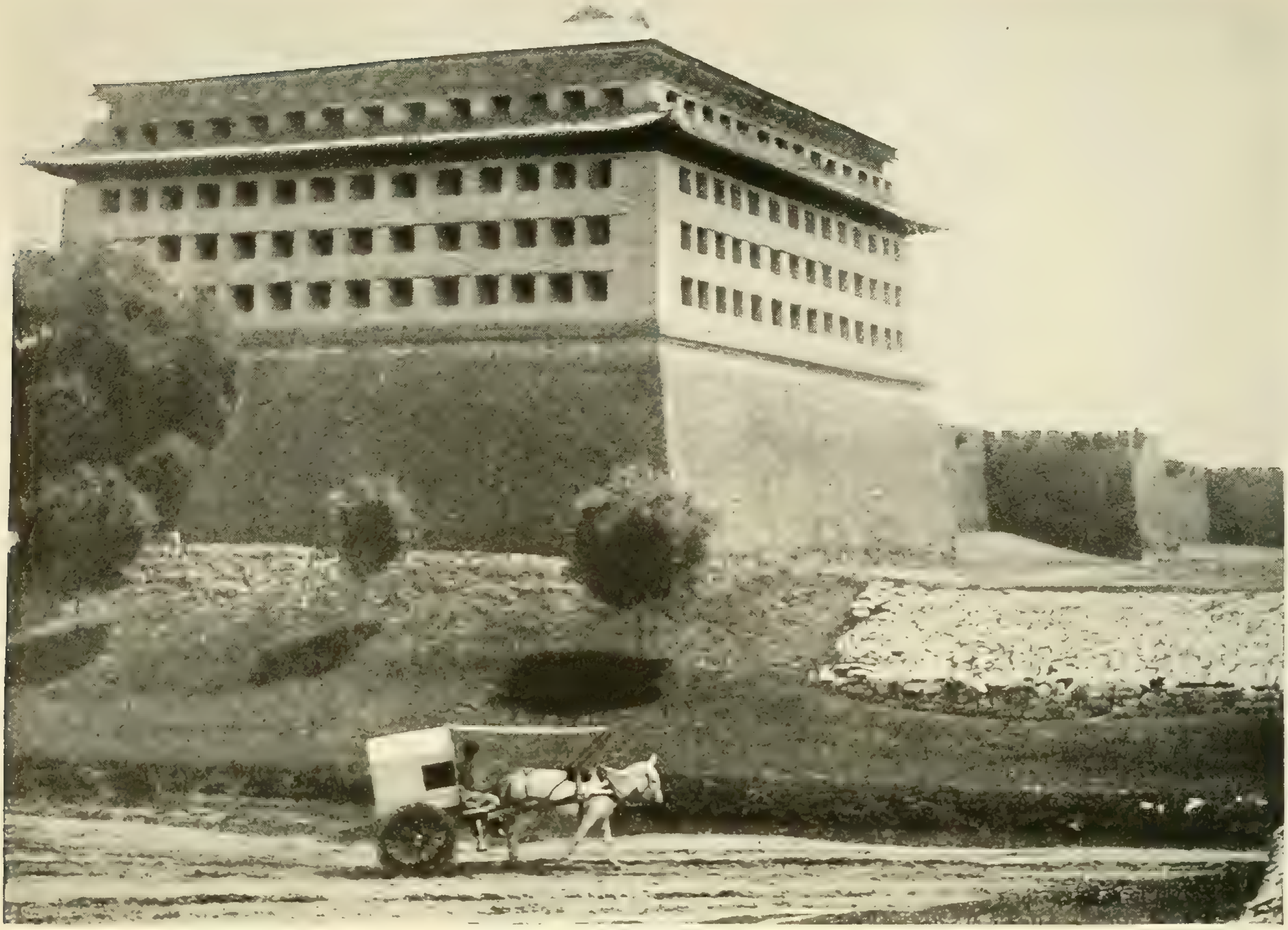
HOW AMERICA'S BOXER INDEMNITY FUNDS WERE SPENT

Adjacent to these remains there stands, by a kind of historic compensation, Chin Hwa College, with most modern equipment—library, assembly hall, gymnasium, science buildings—built and maintained with that portion of the Boxer indemnity which the United States gave back to China. When one thinks of the incalculable repayment in international friendliness and the boundless admiration among the Chinese for the United States which has come from that small gift, one wonders why it is that nations have not more frequently dealt with one another in the same generous fashion.

A week later I went out again from the city, this time to the Great Wall. Now when I look back it seems like a dream. It is not quite believable that I have really been to the goal of my childhood's imaginings, that last fence of the universe, the Great Wall of China. More improbable still does it seem to have ridden to it and through it in a modern railroad train.

The world has surely grown small when travel agencies in Peking can advertise a day's excursion to the Great Wall.

It is wonder enough for one journey to have walked atop the wall and looked out over the dusty brown plains of the north where Tatar horsemen once swarmed toward the passes, and to have seen trains of pack-mules straggling through the great stone gateways, obliv-



Photograph by J. A. Muller

A FLANKING TOWER ON THE BATTLEMENTED WALLS OF PEKING

The numerous window-like openings were designed for archers defending the city. Note the canopied Peking cart in the foreground.

ious of the traffic on the near-by rails, their backs laden with merchandise as were the backs of pack-mules two thousand years ago.

THE SPELL OF THE GREAT WALL OF CHINA

Like so much in or near Peking, the Great Wall is at first disappointing. It is disappointingly small. It is, in places, only twenty feet high and as many broad, while the city wall of Peking is twice as high and, at the base, thrice as broad, with huge ten-storied watch-towers at each corner.

When one stands close under the Peking city wall it looms above with the massive grandeur of an abrupt high cliff; but when the traveler gets off the train at the Nankow Pass and sees the bit of wall scrambling up the hillside before him, he wonders why it is called "great."

That, however, is only at first. He has only to climb up out of the pass and follow the wall for half an hour and he begins to understand.

Away it goes before him, and behind, up, up the topmost ridges of the hills—bending, swinging, climbing, leaping like the supple, agile dragons of the palace-garden screen. It undulates, it sways, it marches before, it takes the curve of the hills like a swift auto on a mountain road, on and on and on, across the farthest gully, beyond the farthest peak. Where the mountains blend into the clouds, there it is; where the last horizon vanishes, it is there.

One sits in the shadow of a watch-tower and through its windows gets arch-framed pictures of bulwarks and bastions and exultant curves; and he remembers that this wall was begun two hundred years before the birth of Christ, and was added to throughout the centuries, until it compassed fifteen hundred miles.

In places of strategic importance, as here at the Nankow Pass, there were once five giant loops, with miles of country between, so that if one were taken the next might be defended; and every hundred yards there is a watch-tower.

It is at once the most daring, the most colossal, the most graceful, architectural concept which the mind of ancient man was given to fulfill. The sheer audacity of the thing, especially in the light of China's unaudacious character today, is staggering.

THE DISMISSED RICKSHAW MAN AND HIS SMILE

By an ironic coincidence it was on the way to the Great Wall that I met the unaudacious rickshaw man. The first stage of our journey—from my host's rooms to the railroad station—was a distance of four miles. One of our rickshaw coolies was young and lusty and a good runner; the other was old—not very old in years, but old for a rickshaw man in a city where distances are long and legs and lungs must be in prime condition to suit impatient Americans.

The old man started off briskly enough, but we had hardly rounded the corner into the main street when it became clear that he could not stand the necessary pace for forty minutes.

"We must catch that train," said my host, "and this old chap won't get us there." So I hailed the first sturdy coolie I saw and stepped into his rickshaw.

"Give the old man four coppers," said my host.

I did so without further thought at the moment, saw the old fellow regard his younger rival with that resigned, pitiful smile with which the Chinese are wont to accept the inevitable, and we were off.

His smile haunted me. I began to feel that I had broken a contract with him; he had been engaged for a ride to the railroad at a fare of thirty coppers; he had been dismissed with four.

"Don't let that trouble you," said my host. "It is understood among rickshaw men that if they cannot pull at the speed you want, you are free to dismiss them. Four coppers are twice as much as he earned."

My host had had considerable experience with Peking rickshaw men. He was doubtless right. But all day long that half good-natured, half regretful, altogether pathetic smile of the old man was somehow mixed up with the glory of wind and sunshine on the brown hills and the wild leaping curves of the ramparts.

It is this unexpected smile at misfortune which makes life bearable for millions of Chinese. I wonder whether it is this same smile which makes progress in China so difficult? That is a problem I have not solved; but I have, ever since, paid riotous rickshaw fares in memory of the old fellow who took me four coppers' worth toward the Great Wall.

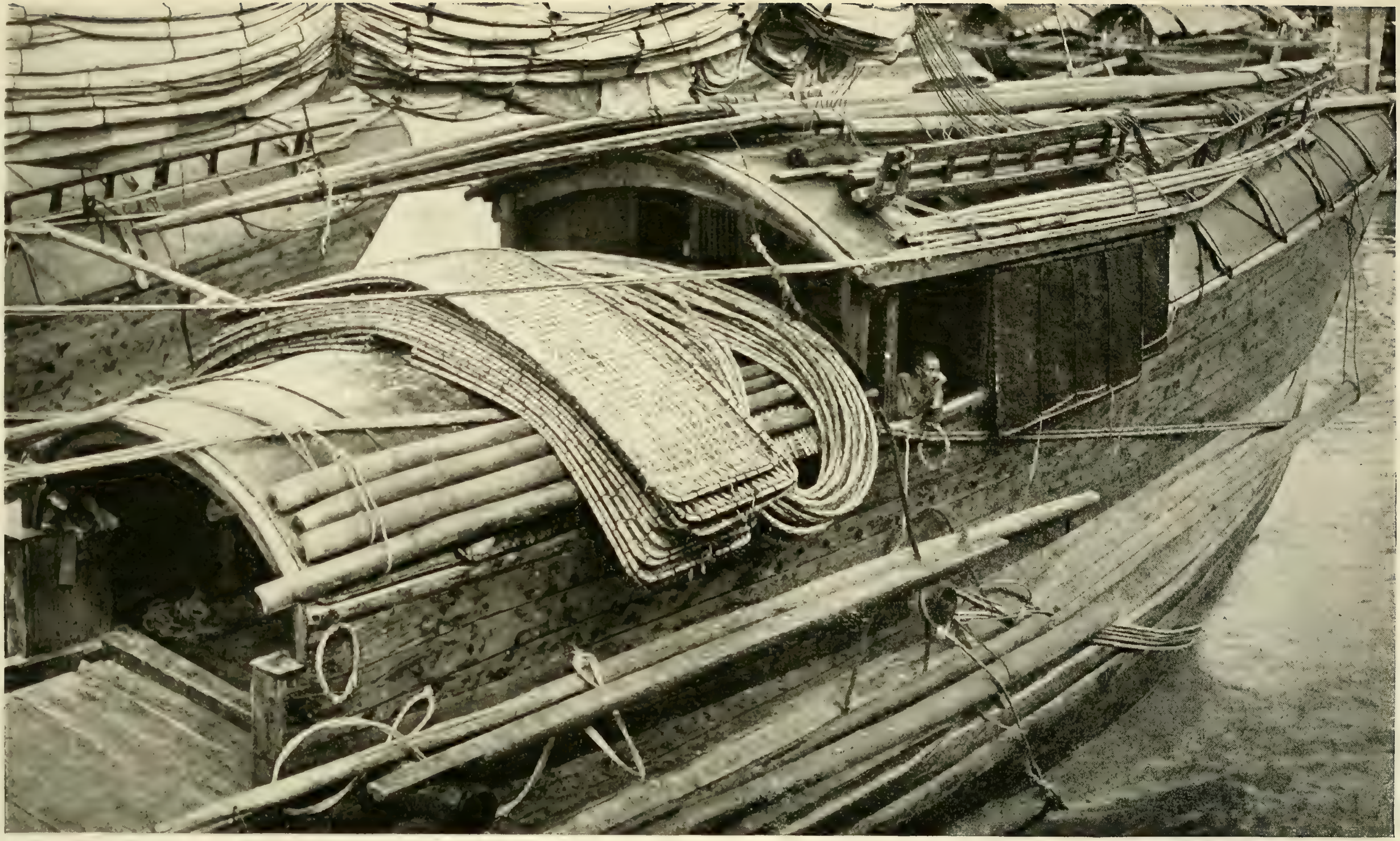
THE EDEN OF THE FLOWERY REPUBLIC

By Dr. Joseph Beech

A THOUSAND miles westward from the coast of China the Yangtze River, which in Chinese means "The Child of the Ocean," in its passage through the outer rim of central Asia's mountain system has carved, in surpassing beauty and majestic grandeur, the five gorges of the upper Yangtze, rightly called the gateways to West China. They stretch from Ichang, until recently the head of steam navigation, to Kweichow, a distance of 125 miles.

The traveler is prompted to call "Hats off!" as he sails between these massive walls, crowned with cathedral domes that companion with the clouds, and his admiration is mingled with awe of the river, with its succession of rapids and treacherous whirlpools that take heavy toll of life and merchandise from those who enter, thus creating the tradition that only the hardy and the favored of the gods pass through.

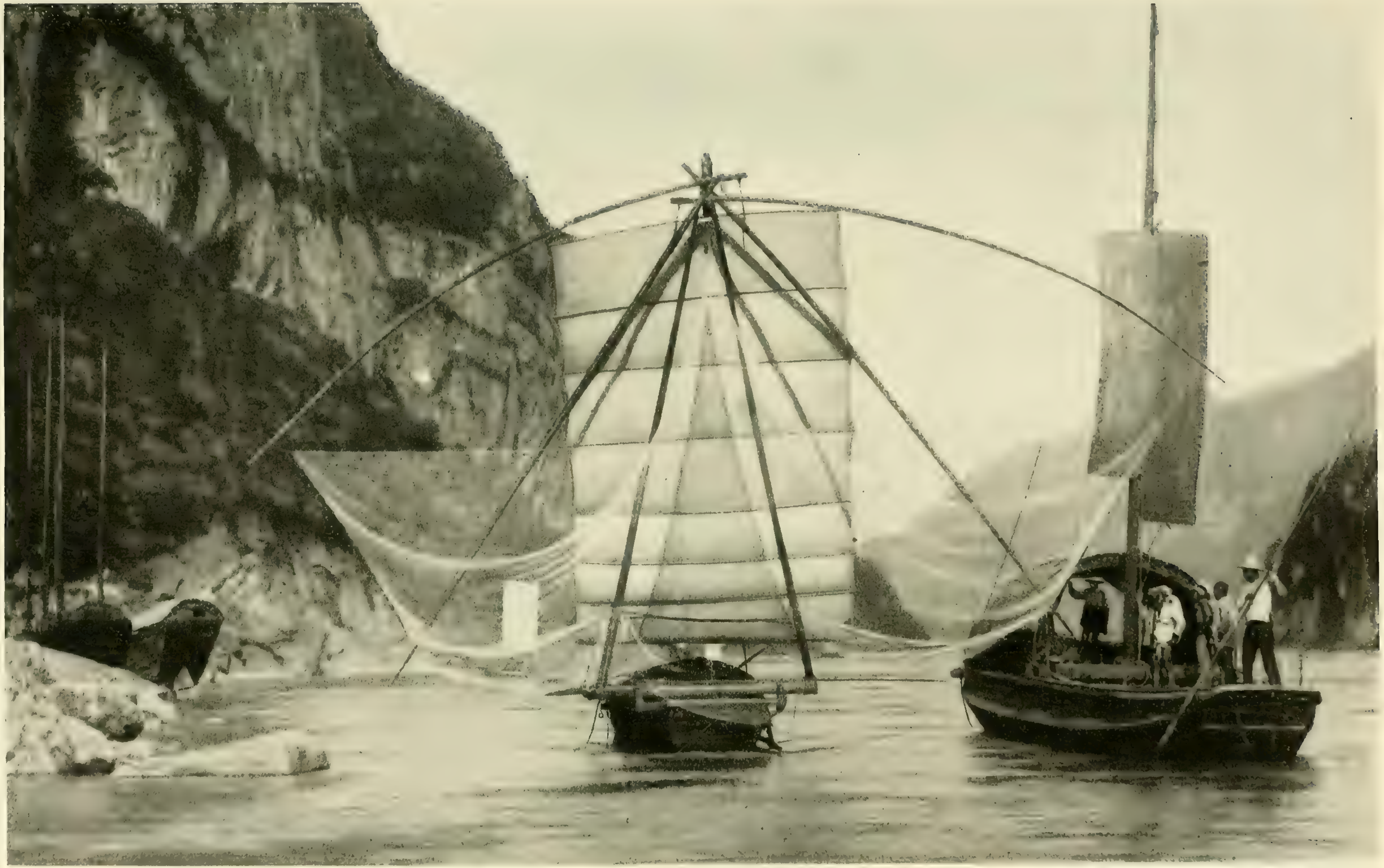
Such is the entrance to the country which the first Western traveler, Marco Polo, who visited that country in the thirteenth century, described as a cultivated garden with great cities, and a recent visitor calls "Sze-chuan the Beautiful, the richest and most populous and altogether the most picturesque part of China."



Photograph by Robert F. Fitch

RIVER BOATS AT ICHANG, ON THE YANGTZE, AT THE FOOT OF THE GORGES

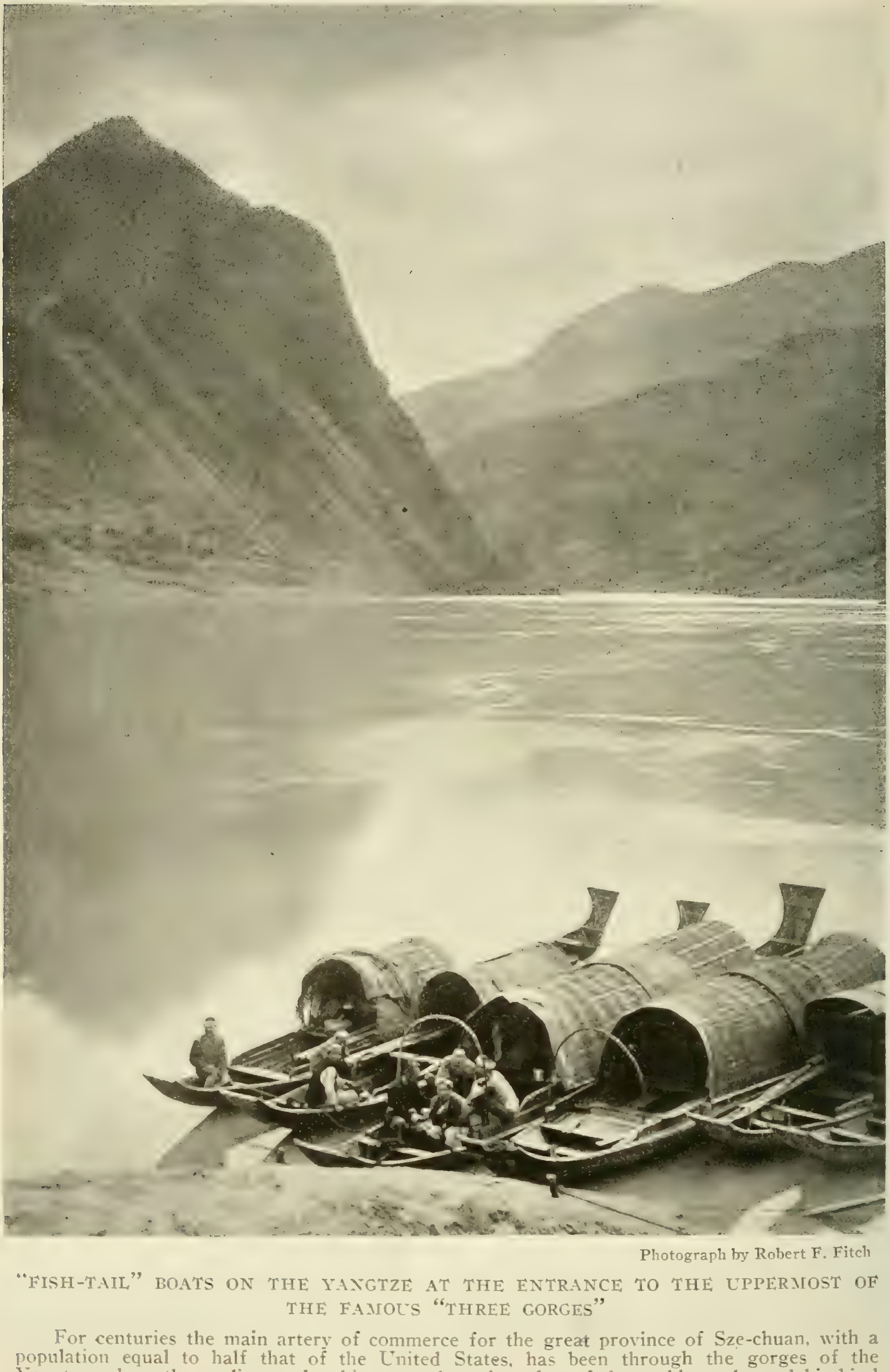
Note the newly bought, heavy coils of woven bamboo cable which are used for towing the boat over the rapids. From twenty to fifty men are required for each boat at many of the rapids. According to an official guide-book, the Yangtze has almost as many names "as a cat has lives." Over the greater portion of its more than 3,000-mile course it is known to the Chinese as Kiang or Chiang (River *par excellence*), the Ta-kiang (Large River) or the Chang-kiang (Long River). In Tibet it is the Murus, in Sze-chuan and Yunnan it is the Chin-sha-kiang (Gold Sand River), and after entering the province of Kiangsu it is the Yangtze-kiang (Child of the Ocean).



Photograph by Maynard Owen Williams

A FISHING BOAT IN THE YANGTZE GORGES AND A JUNK WITH THE SMALL SAIL OF MATTING WHICH IS OFTEN USED TO SUPPLEMENT COOLIE POWER

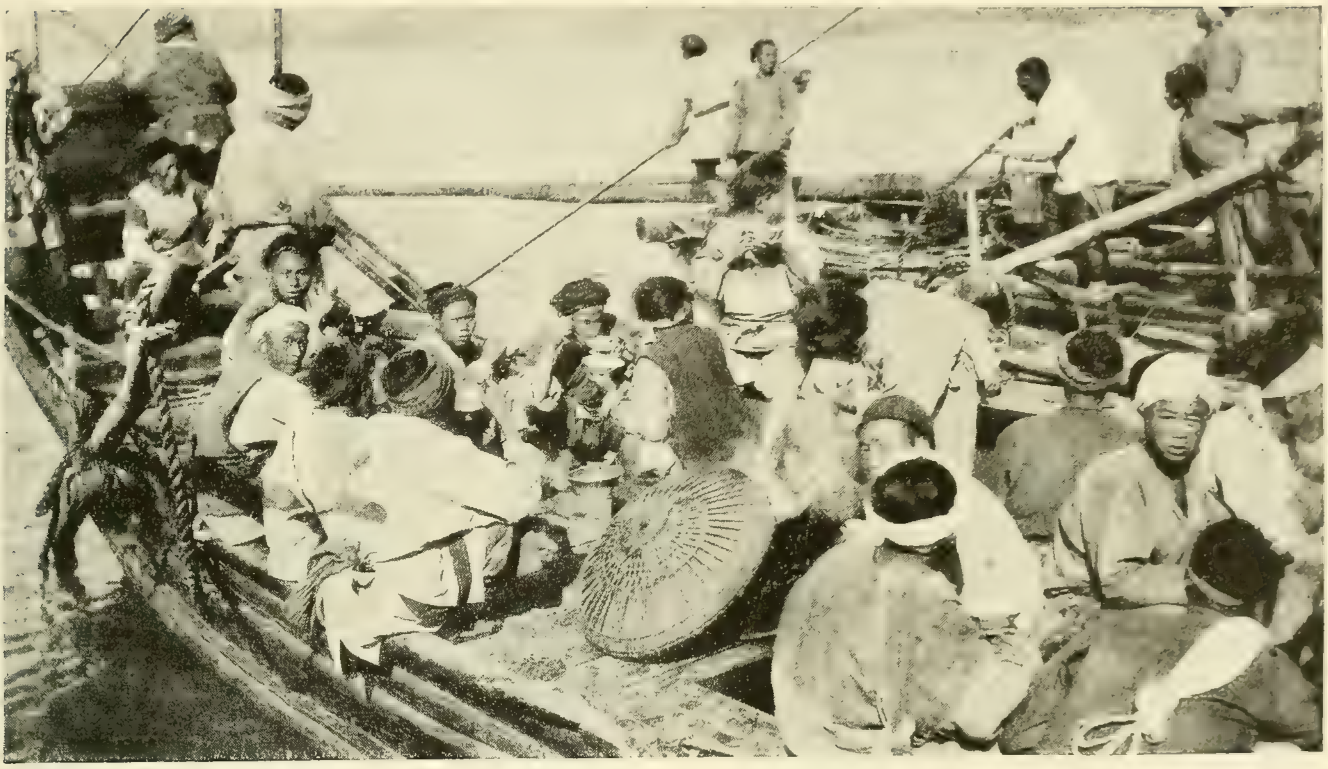
Note the ponderous fish-net, a type in use throughout China. The frame works on a hinge. The net is lowered into the water, and when the fisherman thinks the sought-for fish are above it, he raises it by means of a lever arm and scoops out his "catch."



Photograph by Robert F. Fitch

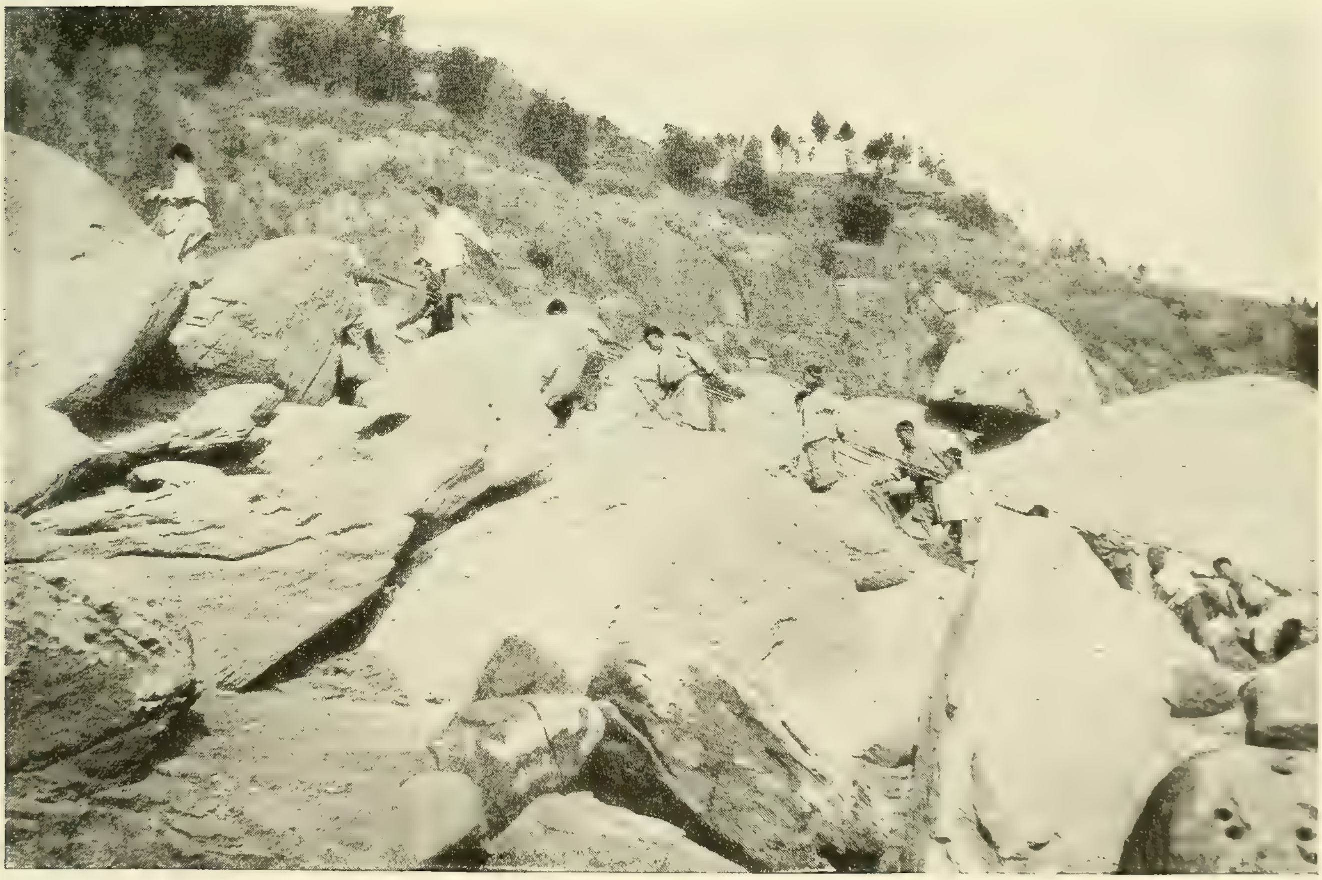
"FISH-TAIL" BOATS ON THE YANGTZE AT THE ENTRANCE TO THE UPPERMOST OF THE FAMOUS "THREE GORGES"

For centuries the main artery of commerce for the great province of Sze-chuan, with a population equal to half that of the United States, has been through the gorges of the Yangtze, where the coolie matches his strength against that of the rapids, as he and his kind tow heavily laden vessels from Ichang to Chung-king, a distance of 500 miles, in which the river has a fall of 500 feet.



TRACKERS ON THE YANGTZE TAKING THEIR NOONDAY MEAL

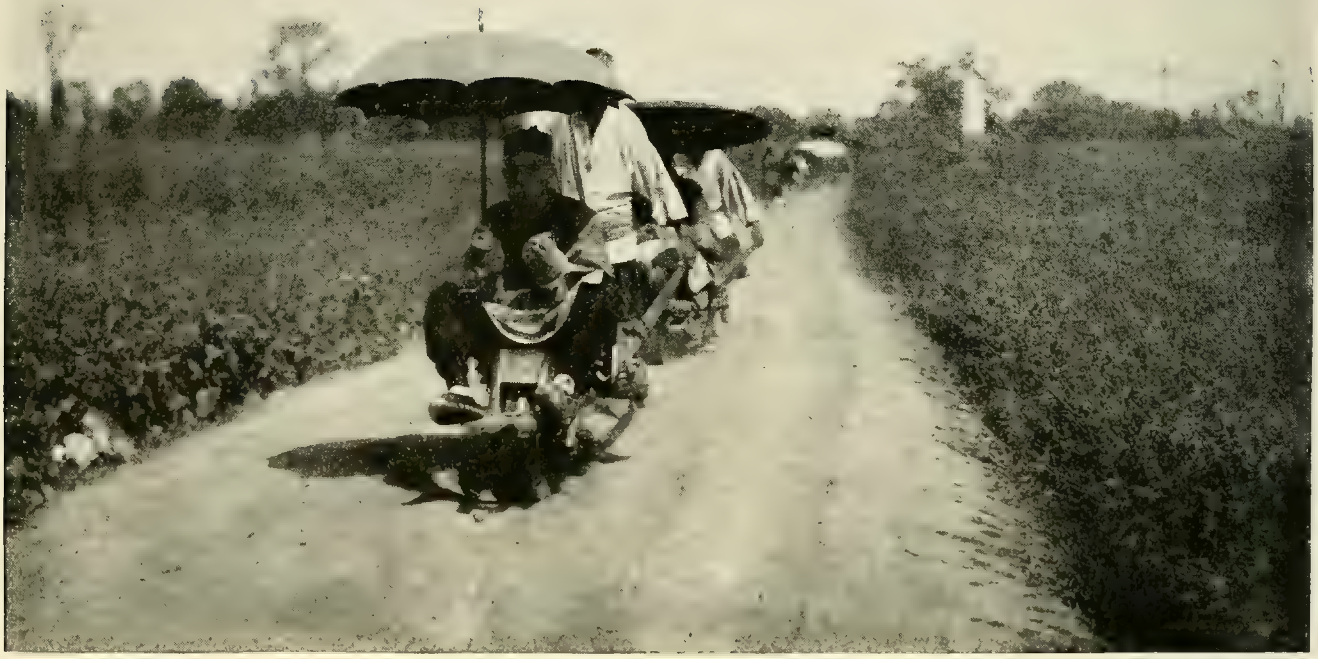
The river boats are hauled through the gorges of the Yangtze by these trackers, who tug at the shore end of a bamboo hawser sometimes half a mile in length.



Photographs from Joseph Beech

A DIFFICULT STRETCH OF TOW-PATH ALONG THE YANGTZE

"Gripping fast to the rocks, where a slip costs a limb or a life."



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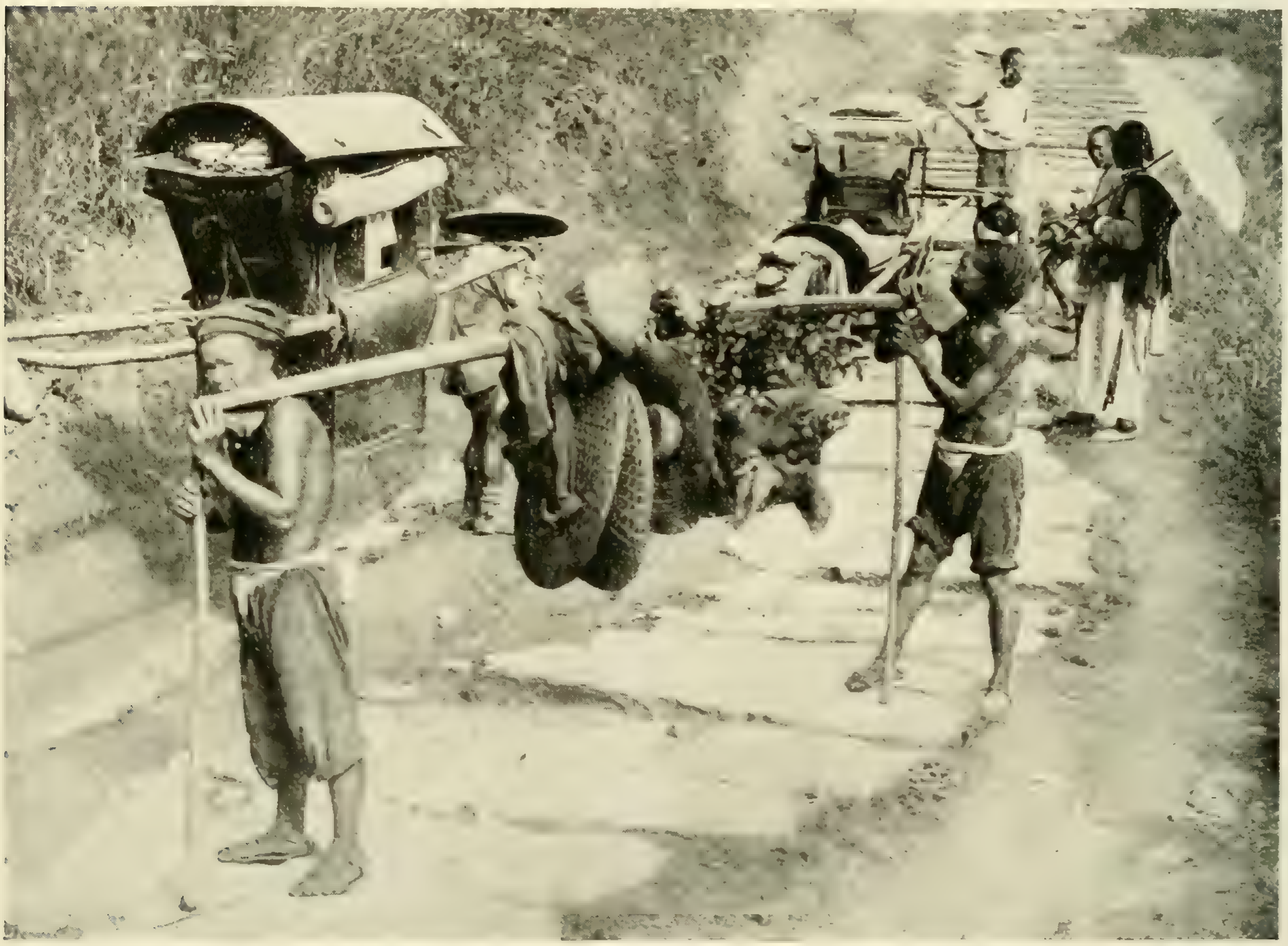
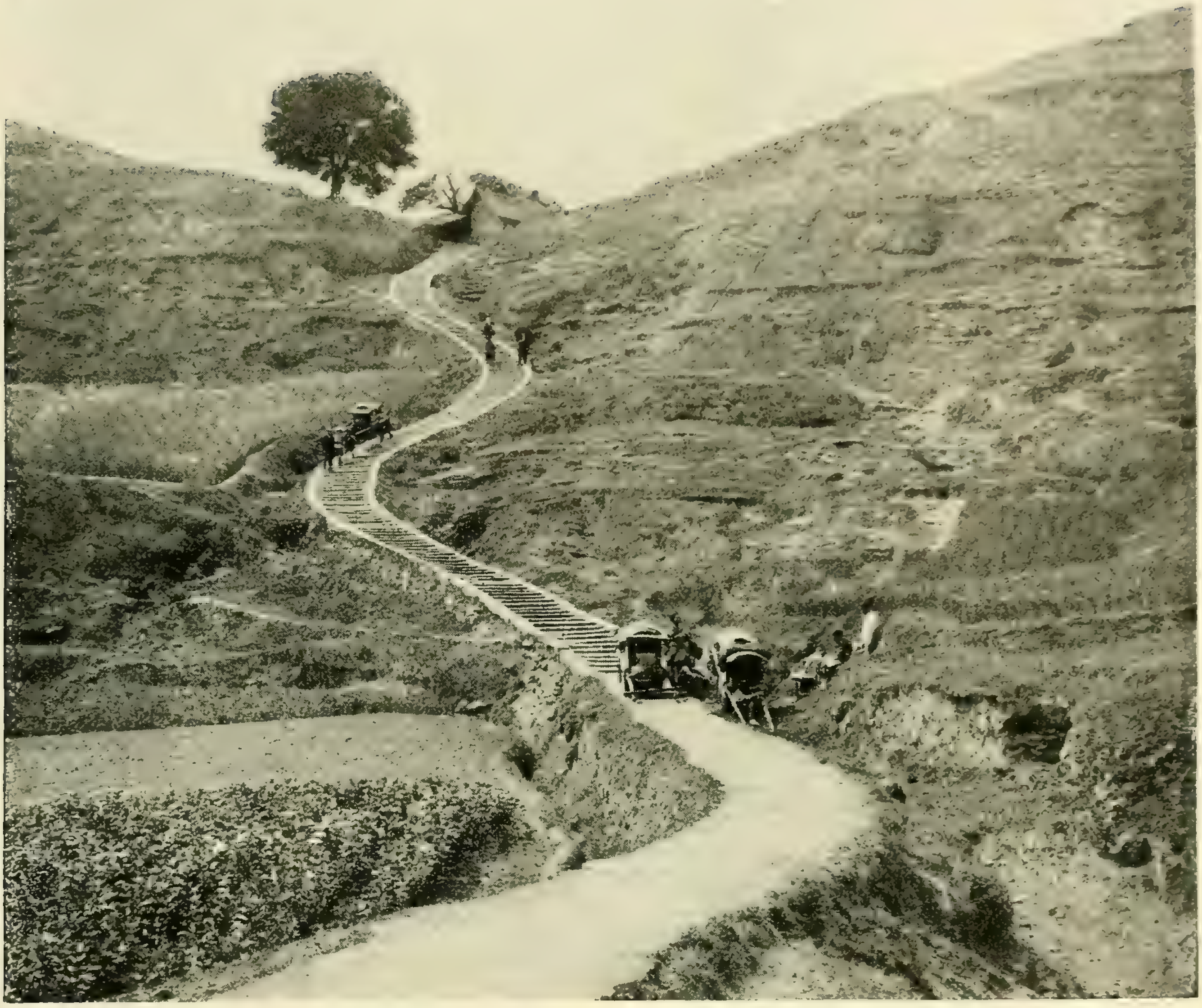
THE WEST CHINA JITNEY



Photograph by Robert F. Fitch

THE "BACK OF MAN" IS THE UNWRITTEN EPIC OF SZE-CHUAN

Coal and other minerals from the mountains, wood from the hills, the merchandise of cities, the grain of the plain, even the pigs en route to market and the men who can afford the fee—all ride on the back of man.



Photograph from Joseph Beech

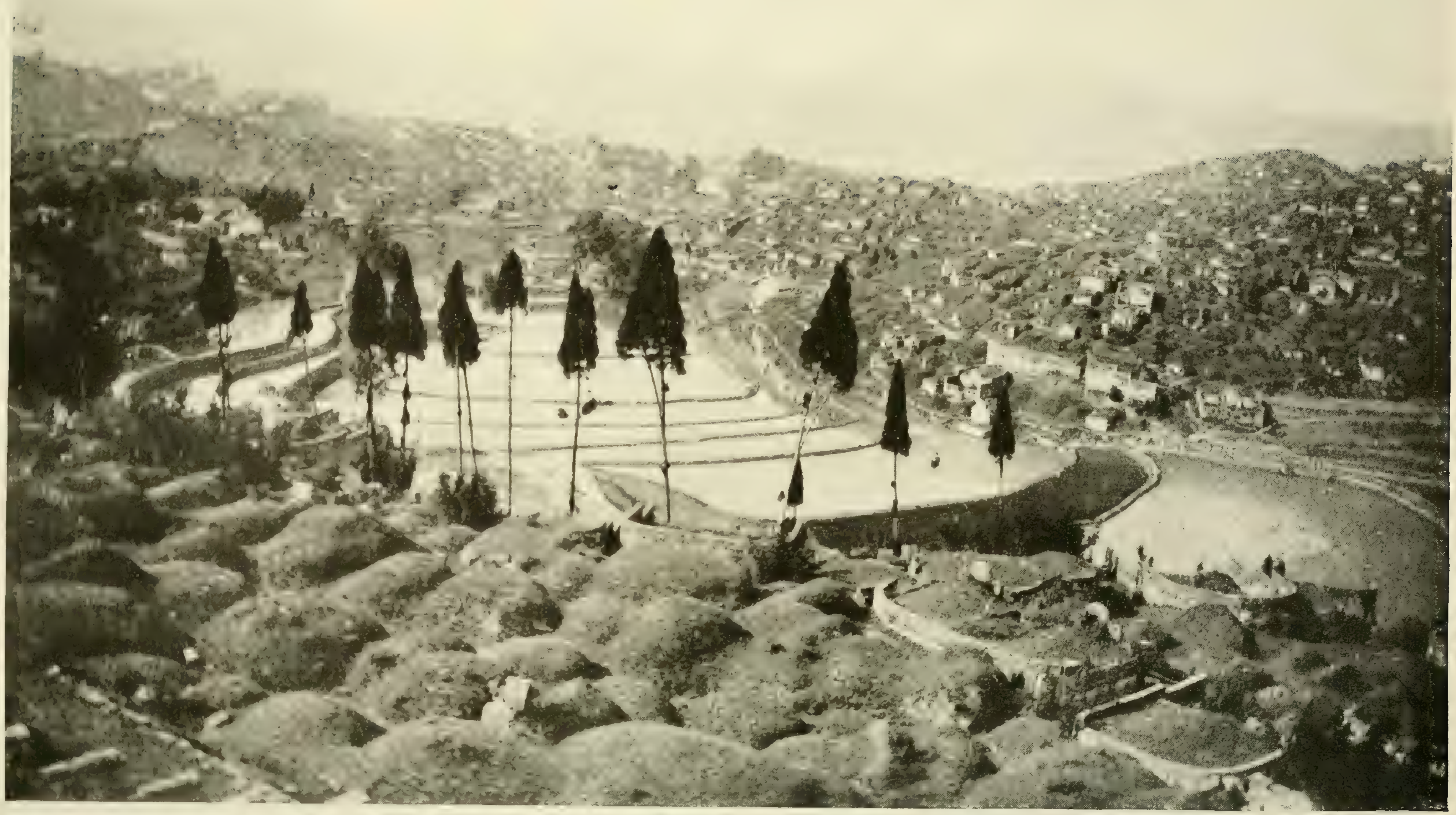
AS THERE IS NO WHEELED TRAFFIC IN SZE-CHUAN EXCEPT BY WHEELBARROW, THE HIGHWAYS OVER THE HILLS OFTEN CONSIST OF A SERIES OF STEPS

For many centuries and until yesterday, the journey from Ichang to Chung-king, a distance of 500 miles, required fully a month and sometimes two. It was made by native junk, pulled along after the manner of the old-fashioned canal-boat, but, instead of the tow-path mule, by a crew of twenty to sixty men tugging at the shore end of a bamboo hawser sometimes fully one-half mile in length.

The task of these trackers is most arduous and beset with constant danger. Sometimes they are seen scrambling over rocks and boulders upon which it would seem impossible for men to travel; next we see them clinging to the sides of precipitous cliffs where a slip costs a limb or a life; and again set on all fours, gripping fast to rock or shore, while the crew aboard the boat pries it obliquely into and up the stream by the bow-sweep set against the onrushing current; then plunging forward under the lash of the fu-teo to gain headway as the boat is released and swings shoreward.

Today, dynamite is blasting a safer course, and fourteen-knot steamers make the journey in forty steaming hours. The devils of the waters, as these rivermen will believe, have won their victories also, for a large German commercial steamer lies buried in 120 feet of water at the entrance to one of the gorges.

Tomorrow it will be the railway, for it is now known that Sze-chuan holds a golden store for the first road that enters



Photograph by R. A. McCurdy

A PART OF CHUNG-KING'S CITY OF THE DEAD

Every mound and white spot in sight marks a grave. Around Chung-king there are miles and miles of these graves—and no one knows how many layers deep!

it. The French have long planned to extend their Tongking-Yunnan line northwest to Chung-king and Cheng-tu. The Belgian syndicate has contracted for a line southwest from Singan to Cheng-tu, which will connect the province with the railway systems of northeast China and Manchuria; and the Four-nation Hu-Kwang agreement, in which America has a share, calls for a line from Hankow to Cheng-tu.

A company of American engineers has completed the survey of this last named line and a start has been made on its construction. When this is completed it will be supper in Ichang, breakfast in Chung-king, and tiffin in Cheng-tu.

THE SPIRIT OF THE ORIENT DEPARTS WHEN THE LOCOMOTIVE ENTERS

Time, which in the West is born with wings and flies, but in China stands footless, content to crawl, will be saved, and the Sze-chuan Alps will vie with those of Europe as the Mecca of travelers. But with the gain will come the loss of the most extraordinary journey in the world, for the spirit of the Orient departs when the locomotive enters.

Gone will be that growing sense of the grandeur and majesty of God's creation, which is experienced as one moves slowly through these gorges to their climax in the Woosang Gorge, where thirteen peaks rise one above another five thousand feet into the clouds.

No longer will there be the thrill of danger overcome, and one will not hear the weird antiphonal songs of the boatmen as they ply the oar or swing along the shore, nor join in their whistled prayer as they call to the spirit-winds for a favor in the gorges.

We shall miss the bang-bang of the firecrackers, set off from the rear of the boat to loose the grip of the demons that hold us fast in the rapids, and we shall miss the odor of the incense burned at the bow as a favor to the gods.

Such passing sights as the trained cormorant catching fish for his master, the gold-washers scouring the gravel for its gold, and the daily sport of half a hundred men struggling to be the first to devour his morning rice will not be encountered or enjoyed. Neither can we challenge another boat, bearing another flag, for a thirty days' race to the city of Chung-king, and reap the joy of finishing with the Stars and Stripes waving a salute to a worthy foeman less than one hundred feet behind at the end of the five-hundred-mile journey.

CHUNG-KING AND BEYOND

Chung-king, at which we have arrived, is a walled city with 600,000 inhabitants, situated at the confluence of the Yangtze and the Kia-ling rivers, and is, through the fiction of a foreign treaty, an open seaport, notwithstanding the fact that it is 1,500 miles from the coast and 1,000 feet above the level of the sea. It is now the head of steam navigation for nearly a dozen steamers controlled by the Chinese, the seat of maritime customs for the West, the point of distribution for all western-borne commerce and the assembling depot for all shipments to other parts of China and foreign lands.

The chief exports to America and other countries are paint oils of the tung-tree, medicines, bristles, feathers, and hides, and, of manufactured articles, silks, satins, and crêpes of the finest grades.

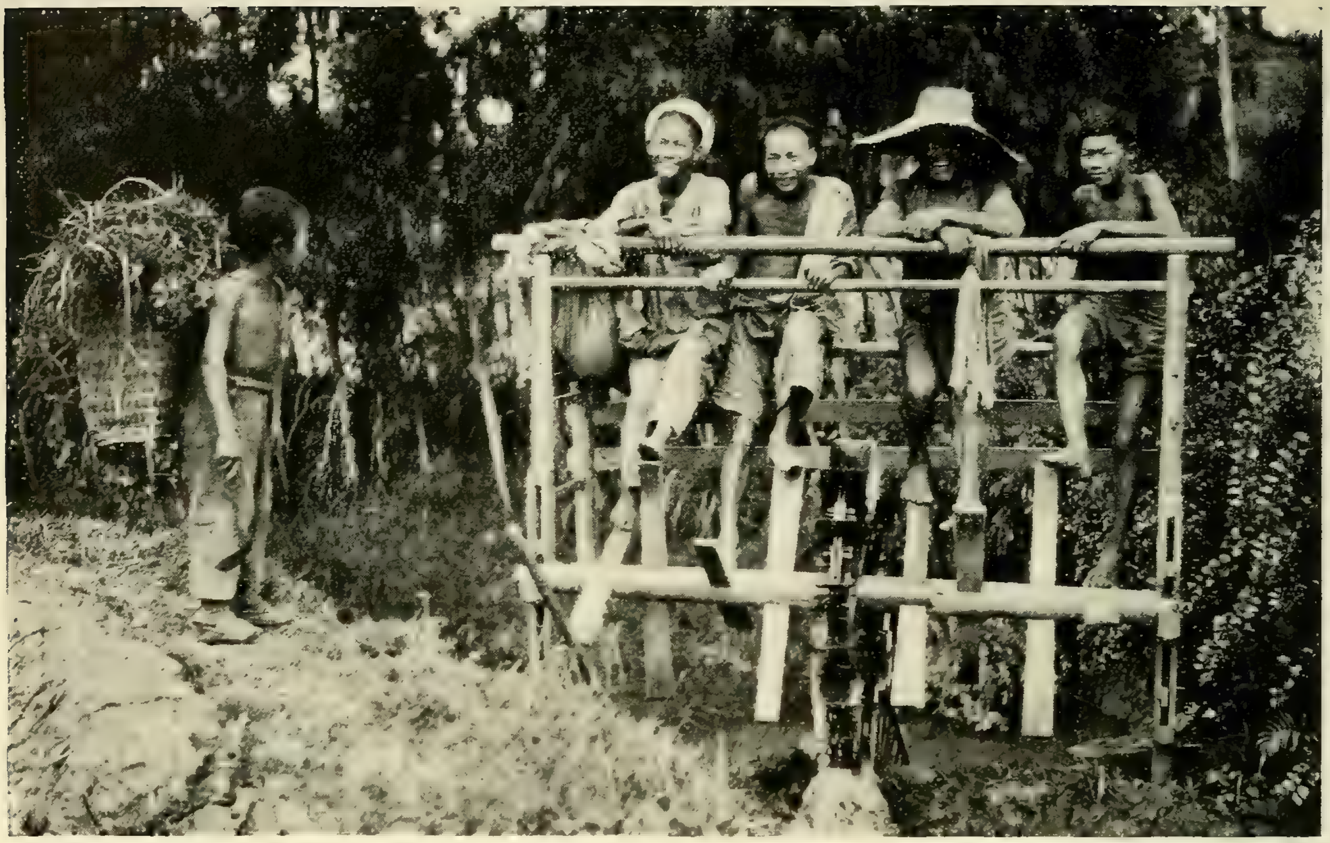
Confined between its two rivers, this city, like New York, is growing into the air. It has no suburban lines to relieve its surplus population, and real estate has accordingly increased in the past decade from 100 to 200 per cent in value, making it profitable to erect fine foreign buildings, in which it excels any purely native city in China.

The English, French, German, Japanese, and Americans have had gunboats anchored on its rivers and are competing for its trade, with the English in the lead. United States trade is represented in kerosene, sewing-machines, cigarettes, patent medicines, hardware, and nails.

A 300-MILE TRIP IN A SEDAN-CHAIR

From Chung-king northwestward 300 miles to Cheng-tu we travel by sedan-chair, borne on the shoulders of two, three, or four bearers, as one's avoirdupois requires or his Troy weight permits; for the rich ride in fours by choice, as do the portly without option.

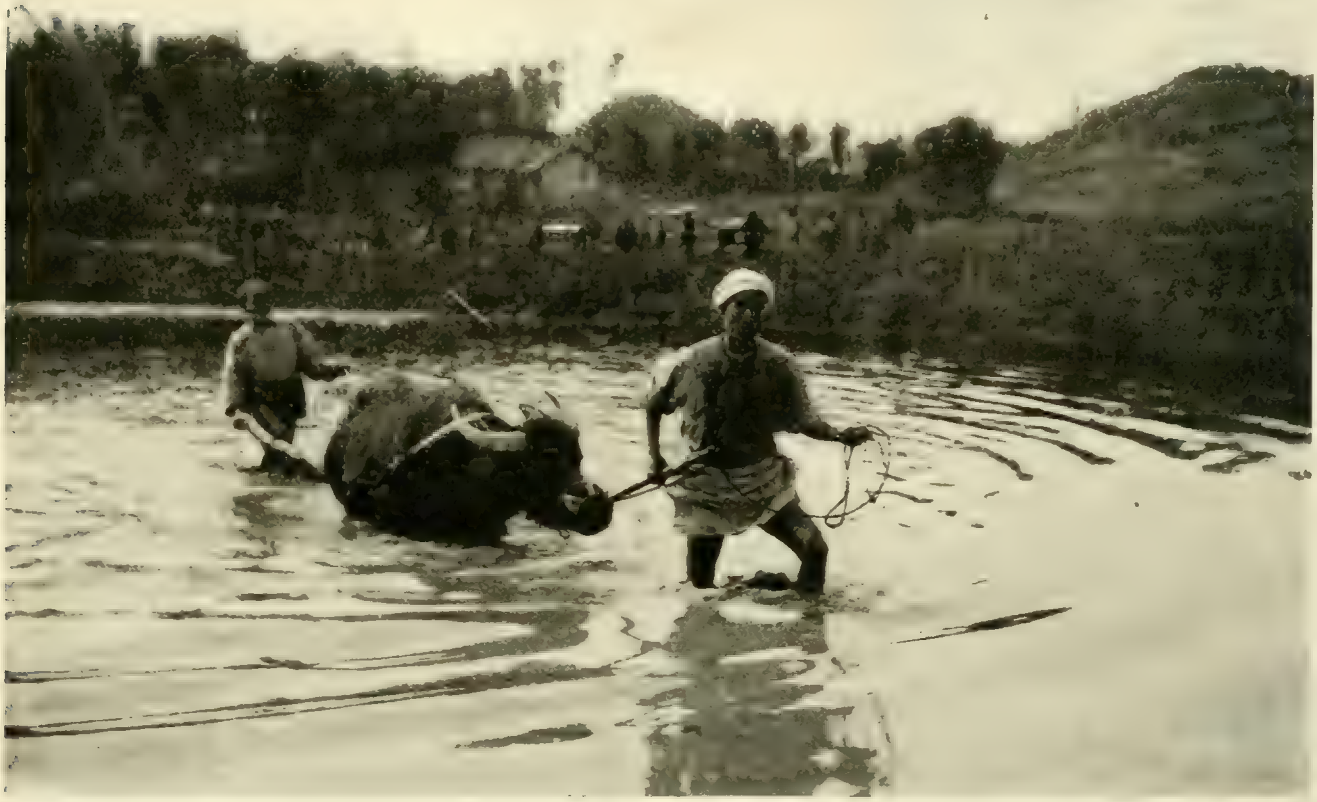
In addition to the chair-bearers, the foreign traveler requires a coolie to bear his cot and bedding, another to carry his food, and an attendant to cook it. A



Photograph by Robert F. Fitch

THE FOOT THAT PLIES THE PUMP CONTROLS THE CROP IN MANY PARTS OF CHINA

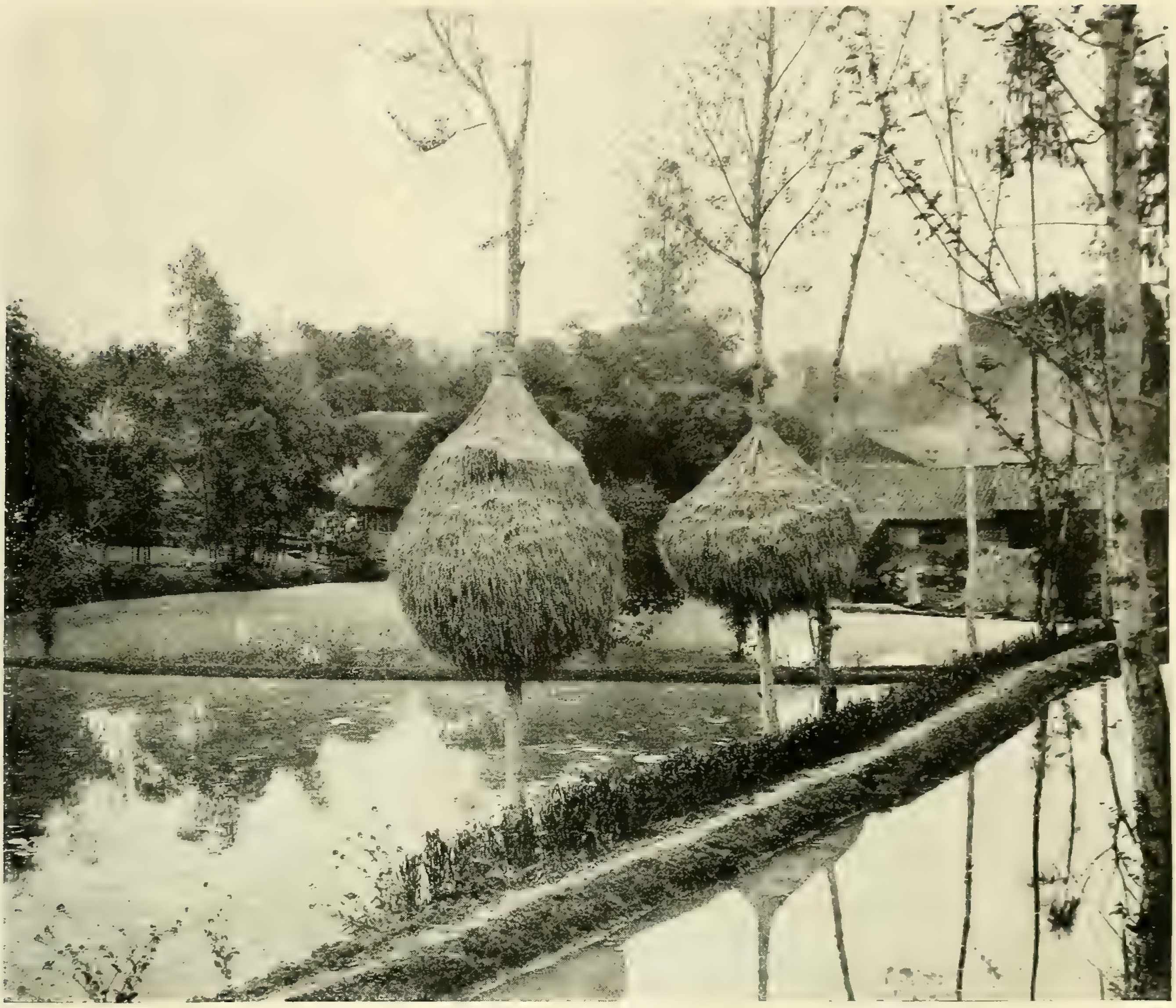
These particular coolies do not seem to be downcast by the monotony or the strenuousness of their share in the task of irrigation, however.



Photograph from Joseph Beech

PLOWING UNDER WATER AND UNDER DIFFICULTIES IN THE CHENG-TU PLAIN

The farmer of the Cheng-tu Plain knows little of the science of gardening, but much of its method. He has made Sze-chuan known as the Garden of Asia, where famine never comes.



Photograph from Joseph Beech

HAYSTACKS TIED TO TREES IN THE PADDY FIELD OF A SZE-CHUAN FARM

As the farmer needs hay he takes it from the bottom of the stack, permitting the weathered portion to remain. The embankment paths separating the paddy fields are bordered with bean plants.

small party easily becomes a regiment, and if an armed escort accompanies it, as is usual, the party resembles an army.

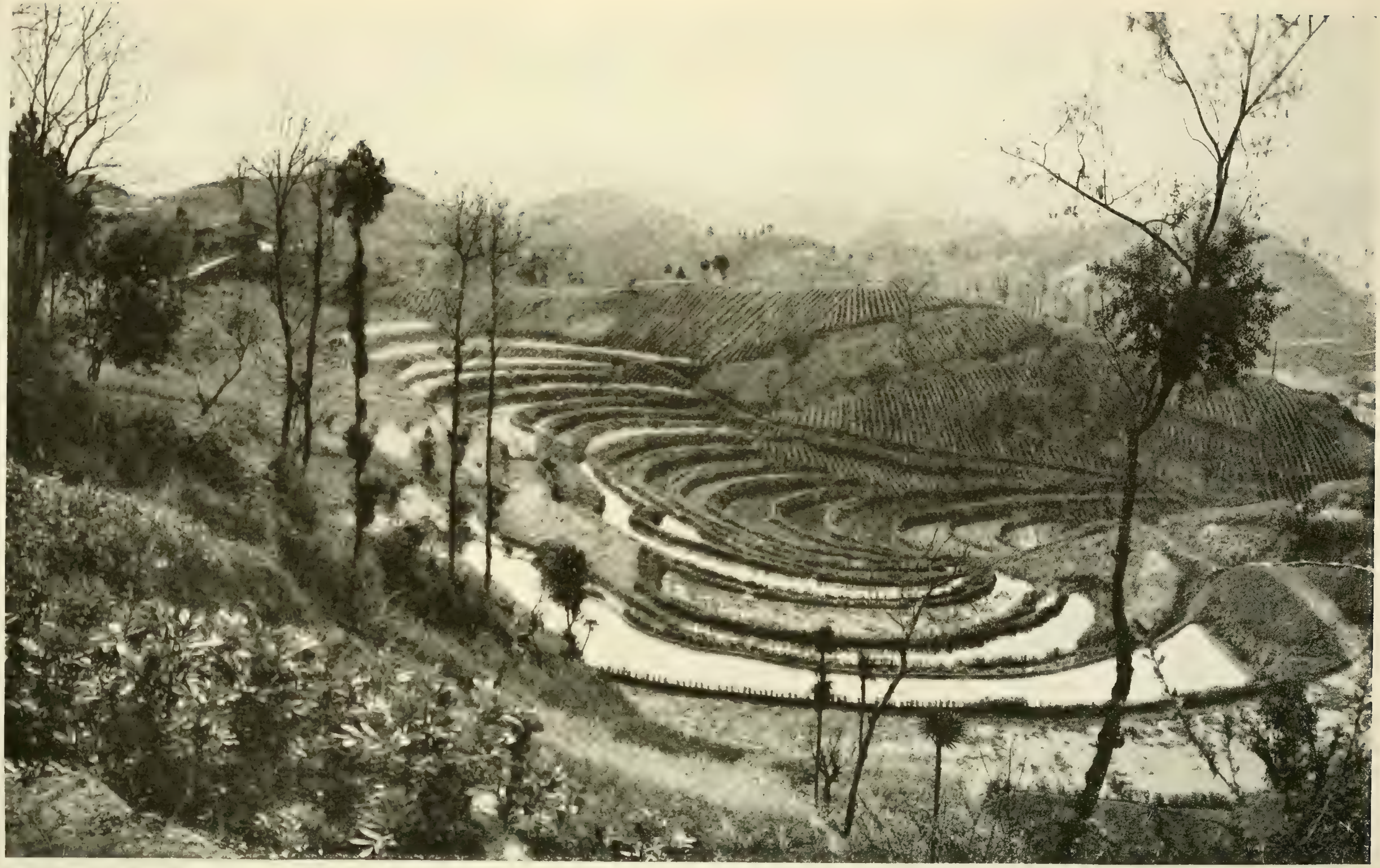
Beyond the walls of Chung-king we enter the city of the dead. We pass square-built tombs of the Ming period; near by are the crowded lines of public graves for beggars and the very poor; and then, far away to the top of the hill, about four miles distant, are the regulation mounds of Chinese graves, with here and there beautifully carved, terraced mausoleums.

A more orderly section of broad extent, reserved for Mohammedan graves, shows that the followers of the Crescent are no mean or inconsiderable company among the city's population.

Over these sleeping camps the telegraph lines are now strung and the Cheng-tu Railway will tunnel beneath them. Factories and homes are pushing them farther from the city, which is a sure indication that the hand of superstition is losing its grip, for a quarter century ago this would have spelled r-i-o-t.

The Sze-chuanese from of old have been expert workers in stone, as is evidenced by the many tombs, homes, and places of defense carved deep into the rocky cliffs along the rivers. Their Chinese conquerors have inherited this art along with their land, for the country abounds with artistically carved stone bridges and memorial arches of massive proportions ornately wrought in stone.

One never sees a monument dedicated



Photograph from Joseph Beech

THE CONVOLUTIONS OF SZE-CHUAN PADDY FIELDS ARE WONDERFUL IN SYMMETRY

Much of the tillable area of this province of China is extremely hilly. The rice fields must be terraced and the water lifted to them by man-power.

to a warrior, but many to virtuous widows, who refused to remarry after their husbands had died. Others reared by royal permit have the four characters *Wu Kia Tung Tang*, five generations living together in one home. This, though not common, is by no means unknown in West China, and surely, if five generations can live together in one home and live peaceably, they deserve recognition, and the Chinese accord it, as these massive stone and tile mosaic monuments attest (see illustration in color).

THE LAND OF PAGODAS

West China might be called "The Land of the Pagoda," for nearly every city has its towering sentinel from three to fifteen stories in height. They are generally placed upon some eminence overlooking the city they protect, and may have served as watch-towers in times of trouble, but the real purpose of their erection most likely was to exert a benign influence upon the fung suei—the spirits of wind and wave that bring prosperity and ward off disaster.

Out from the crush and the hum of the city of the living and past the quiet camp of the dead, we come to the country—not, however, the country of the Western world; rather a mass of terraced paddy fields and farm gardens, with human beings always in sight. People are the only feature of the landscape that we cannot leave behind or ignore; so we stop here in our journey to glance at the inhabitants of Sze-chuan, who surpass in rugged diversity of race the variety of the province's scenery.

More valuable than its rich mineral deposits and superbly tilled land, the people of Sze-chuan are at once its prime asset and interest.

THE FOUR EPOCHS OF THE SZE-CHUANESE

Four epochs mark the Sze-chuanese and help to explain them:

First, the slow retreat of the ancient aborigines up into the mountains of the south and west and the occupation of the fertile land by the oncoming victorious Chinese.

Second, the ruthless Chinese wars, culminating in the ravages of the tyrant Chang, who, in accordance with his slogan, "Kill! Kill! Kill! Kill! Kill! Kill! Kill! for all men are evil," left many of its cities desolate and its fields without inhabitants.

Third, the repeopling of the province by emigrants from the north, central, and southeastern provinces of China, who, fusing with the scattered Chinese and aboriginal inhabitants and with Mohammedan mercenaries from western Asia, formed the composite Sze-chuanese, styled "Chinese, with a difference."

Fourth, the contact of Christian life and thought upon these peoples, a period of reforms and revolutions, a transition from the old order to the New China of today and the China of promise of tomorrow.

Prof. Edward A. Ross, author of "The Changing Chinese," says of them:

"Those who have known these people longest question whether in a match on even terms our own race could keep up with them. Their physiognomy tends to be intellectual and refined, with little of the Mongolian cast of feature. One comes on youthful shepherds who recall the wonderful shepherd Antinous, who became the favorite of the Emperor Hadrian.

"Oval faces with penciled, arching eyebrows, fine eyes, delicate temples, straight noses with high-cut nostrils, challenge one's notion that male beauty went out with the Greeks.

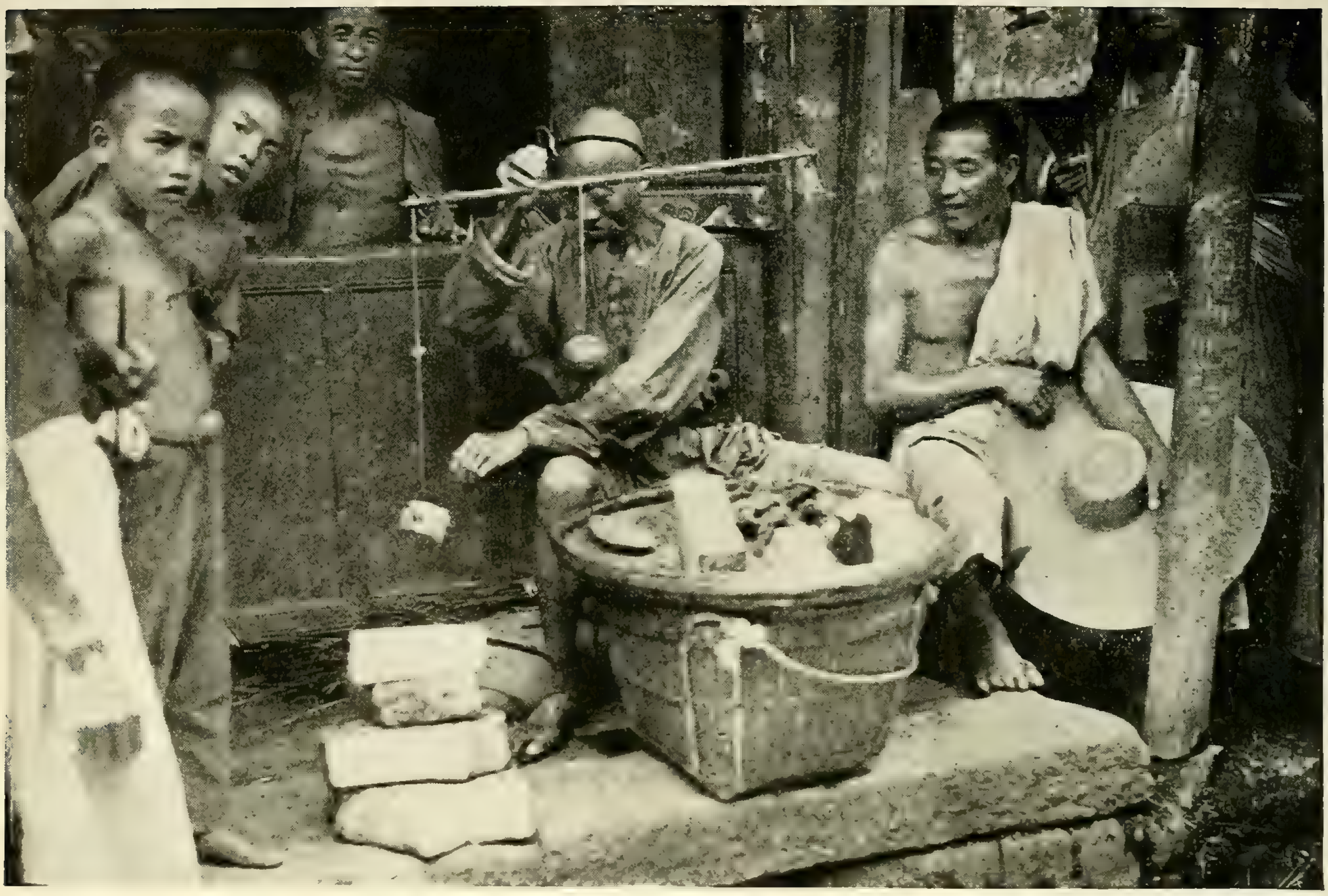
"Of course, the yellow race can never match the whites in charm of tint; but, as regards mold, I doubt if there is anywhere a countenance more worthy of the supermen of the year 10,000 A. D. than that of the high-bred Chinese."

"THE MUSEUM OF THE HUMAN RACES"

The picture may be somewhat overembellished, but one notes, however, one objection. There are too many of them!

It is this complex human amalgam that we call the Sze-chuanese who occupy the eastern half of the province.

The western part of Sze-chuan might well be called the Museum of the Human Races, the as-yet-undiscovered happy hunting-ground of the ethnologist and physiognomist. Here are to be found the surviving remnants in the most heroic struggle for existence that humanity has ever waged and who, for lack of a better term, we call the "Tribesmen."



Photograph by Robert F. Fitch

WEIGHING SALT AS IT COMES IN CAKES FROM EVAPORATION VATS: CHINA

Tszliuching, in the province of Sze-chuan, is one of the chief centers of the salt industry in China. Here a forest of derricks suggests one of our own oil-boom towns. The wells have been drilled by foot-power to a depth of from 2,400 to 2,800 feet (see text, page 371).

As we cross the Min River, which, flowing south, divides the province into east and west, and move westward, toward the snow-covered mountains, we come upon the shambling homes of these people, hidden in impassable ravines or perched upon cliff or mountain side, of which they seem to be part and counterpart; for as the irresistible side-thrust of continental Asia pushed these mountain masses high into the snows and left them crumpled, broken, and isolated storm-swept peaks, so, evidently, a similar convulsion of powerful peoples of Asia, in their movements toward this center, have driven back the weaker or defenseless nations, they in their turn being compelled to follow into these inaccessible places, where, like the mountains to which they still cling, they may yet reveal for us, stratum by stratum, the bedrock of the race.

"THE SZE-CHUAN TRIBESMEN"

The Chinese call them "The Eighteen Nations," but it is believed that there are several times eighteen nations or tribes, each under its own king, council, or feudal lord, independent or semi-independent of each other and of the Chinese in whose borders they dwell.

Among the tribesmen are found representatives of the black, yellow, and white branches of the human family, and some of them, especially the dwarf peoples, are believed to be of very ancient origin.

On the western side these Sze-chuanese are flanked by the Tibetans, who have spread their religious ideas among many of them. Litang, the best known of the border lamaseries, is situated in one of the mountain passes on the roof of the world at an elevation of 14,000 feet. Here, in this sparsely settled country, there are crowded together not less than three thousand lamas, whose chief virtue is bigotry and whose daily service and joy is robbery of the people for whom they pray.

Returning to the big road to Cheng-tu, we stop to notice the swiftly moving army of carriers, each with his minimum load of 106 pounds on an average journey of thirty miles.

Nothing is on wheels. Not a wheeled vehicle is seen in all West China except the wheelbarrow, near Cheng-tu. Thousands of tons of commerce pass over these highways annually, all on the backs of men; and as we approach the centers of population we find the sewage and the water of the city are on their backs also.

A NATION ON THE BACKS OF MEN

The "Back of Man" is the unwritten epic of this land; for, Atlas-like, it bears the world upon it. The coal and other minerals from the mountains; the cities, with their walls and towers and all that they contain; the wood on the hills and the grain of the plain—all, together with the pigs en route to market and the men who can afford it—all have ridden or ride upon the back of man.

The reason is not far to seek. It is purely economic. Man is the most efficient machine and the cheapest animal, and so it comes to pass that he is the universal animal, the omnibus of commerce and the pack-mule of the race.

It is cheaper to wear men down than keep roads up. When he falls, few care and still fewer pity, for others are eager to fill his place. Should we offer to take the burden from his shoulder, he would regard it as taking the rice from his bowl.

Sharing with these carriers the burden of the nation's life is the proverbial "Man with the Hoe," usually a poor tenant giving half his crop for the rent of his acre. Frequently, however, he is able to own his own implements and a water-buffalo, with which he plows his own and his neighbor's plot, receiving in turn his neighbor's help in seed-time and harvest.

Still others, and on the rich Cheng-tu plain they are numerous, are wealthy farmers, who live in fine homes and till their estates with the help of sons and grandsons or with hired servants.

To these farmers is given the task of feeding a nation of 60,000,000 people; for Sze-chuan, isolated by mountain barriers, must be self-sustaining. The measure of this task is appreciated when we consider that fully 50 per cent of the 181,000 square miles of Sze-chuan is too mountainous for cultivation, which means that these sixty millions are sustained on an area less than one-half that of the State of Texas.

Add to this condition his lack of scientific knowledge and the primitive implements with which he labors, as well as the necessity of securing and returning to the soil, as fertilizers, all that he reaps from it; remember, also, that rice, his chief cereal crop, is the most difficult of all cereals to produce, especially in a country where the hills must be terraced and water lifted to fill the paddy fields, and it becomes evident that the Sze-chuan farmer's task is next to impossible and its accomplishment little short of a miracle.

He is, however, favored with a temperate climate all the year and a naturally rich soil, an atmosphere saturated with moisture, an abundant rainfall, and a never-failing supply of water for irrigation from the melting snows on the mountains near by.

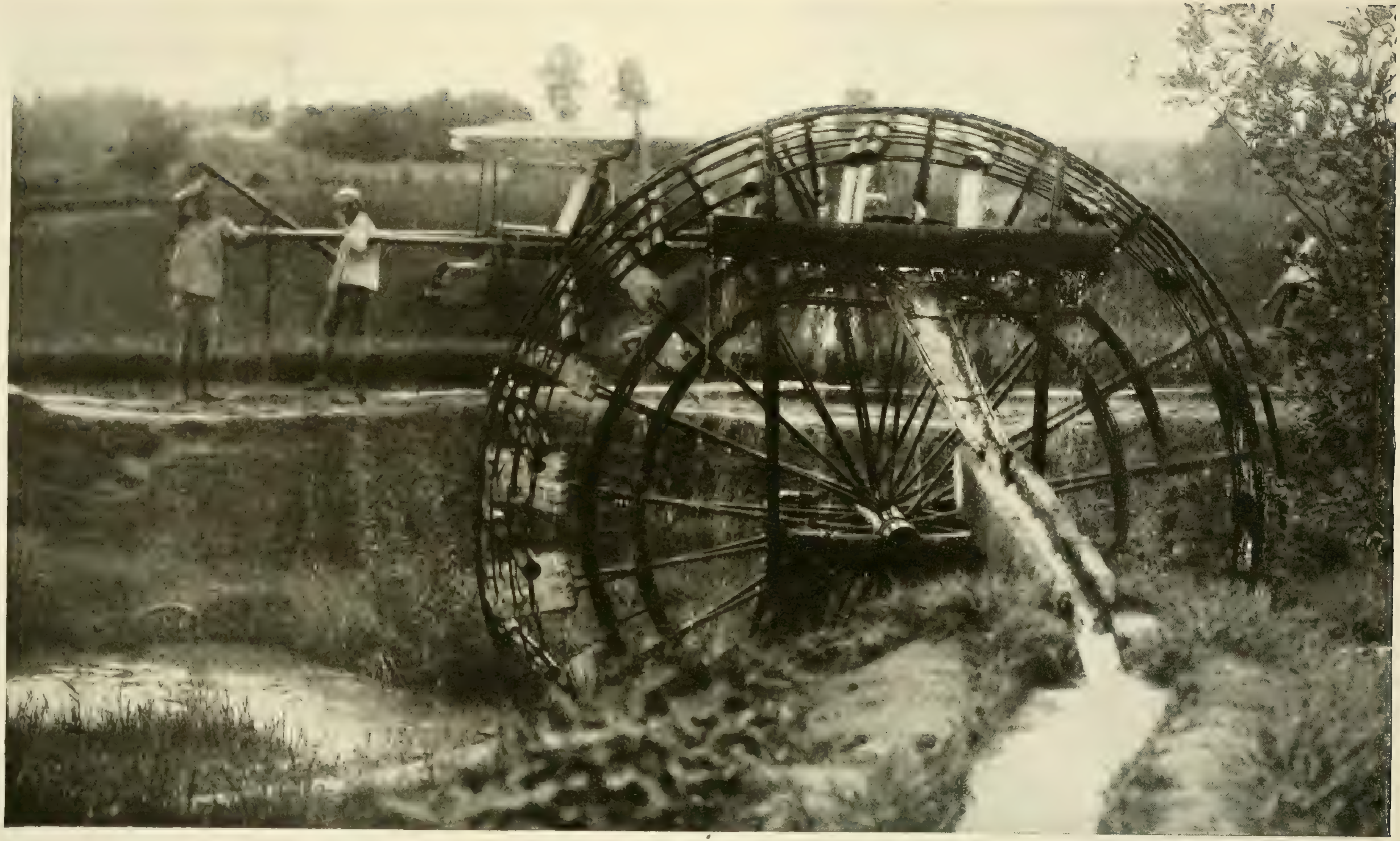
He produces nearly every vegetable and grain found in our market and others to which we are strangers. The fruits that are ours are his also. Apples are few and poor in quality, but the persimmon and orange are second to none and are produced in great abundance. One thousand oranges on the upper Yangtze can be purchased for 50 cents.

He knows little of the science of gardening, but much of its method. By interplanting, especially beans and peas, which he knows improves the quality of the soil; by crop rotation, which he knows increases his yield, and by intensive fertilizing and the sowing of vetch in the fallow season, he manages to keep his fields rich and raises from two to six crops a year. He has made Sze-chuan known as the Garden of Asia, the land where famine never comes.

RICE THE MASTER CROP

The tenant farmer pays his rent with the major portion of his rice, which is the master crop and his chief concern and joy in life. In the early spring he plows his paddy fields, and then prays for rains to flood them, offering incense to the god of the garden, whose shrine is built near by.

When rain and gods fail him, he sets to work with endless-chain, foot-treadle



Photograph by Maynard Owen Williams

AN ALL-BAMBOO IRRIGATION WATER-WHEEL IN THE CHENG-TU PLAIN, SIMILAR TO THE ENORMOUS WATER-WHEELS ON THE ORONTES RIVER AT HAMAH, SYRIA

The Cheng-tu Plain is said to have one of the most ancient systems of irrigation in the world. It was perfected about 200 B. C. by Li Ping, now recognized as the patron saint of the capital of Sze-chuan and Tibet.

pumps, laboriously lifting into his terraced fields the water that he has conserved in the valley. Then, breaking up the rice sod, which has been grown from early sowing in highly fertilized plots, he transplants it in hills in the watered paddy fields.

The roily water makes the hoeing of his rice field impossible; so he does not hoe it; he toes it. With bare foot he feels about the plant with his toes, and if he finds a weed, he toes it out; then presses the dirt firmly in place again. With his right foot he toes two rows, with his left foot he toes two rows, and thus he toes four rows as he goes. That's the way he hoes.

Then come the tares, which the novice cannot distinguish from the rice. Unlike the Bible story, he does not leave them till the harvest, but pulls them loose and casts them upon the highway to be trodden under foot.

For the harvest the farmers combine and render mutual assistance. The rice is cut with the sickle, gathered in bundles, and the grain beaten out by striking it upon slats in the center of a large bin which is pulled along after the threshers.

Dried upon bamboo mats, rolled and cleaned, it is then ready to be transported to market.

The native's fondness for rice is proverbial. Corn and wheat he regards as poor substitutes, and sweet potatoes too plebeian for any but the beggar to enjoy.

THE WONDERFUL SALT WELLS OF SZE-CHUAN

About midway between Chung-king and Cheng-tu we are tempted by the long trains of salt carriers to turn aside and see the renowned salt industry at Tszliuching, which means "Flowing Well." Its origin is lost in antiquity, being first mentioned in the reign of the Minor Han Dynasty in Sze-chuan, A. D. 221-263.

With its forest of derricks, it resembles an oil boom town. The wells have been drilled by foot-power to a depth of 2,400 feet for brine and about 2,800 for natural gas, which is used exclusively for the evaporation of the brine.

Salt is the unfailing source of government revenue and its production is guarded most jealously to prevent monopoly.

The proprietor of the salt well cannot own a gas well or evaporating plant. Likewise, the owner of the gas well or evaporating pans cannot engage in the other branches of the industry, thus making each dependent upon the other and preventing family or government control.

There are no flowing wells now, the brine being lifted in bamboo buckets about 50 feet in length and four to five inches in diameter. The power is supplied by water-buffaloes, hitched in fours to a 60-foot horizontal drum, about which the rope fastened to the bucket winds as the animals are beaten around the circle at a wild gallop. The magnitude of the industry may be gleaned from the fact that every family demands its weekly pound of salt, and that many tons are exported each month to other provinces.

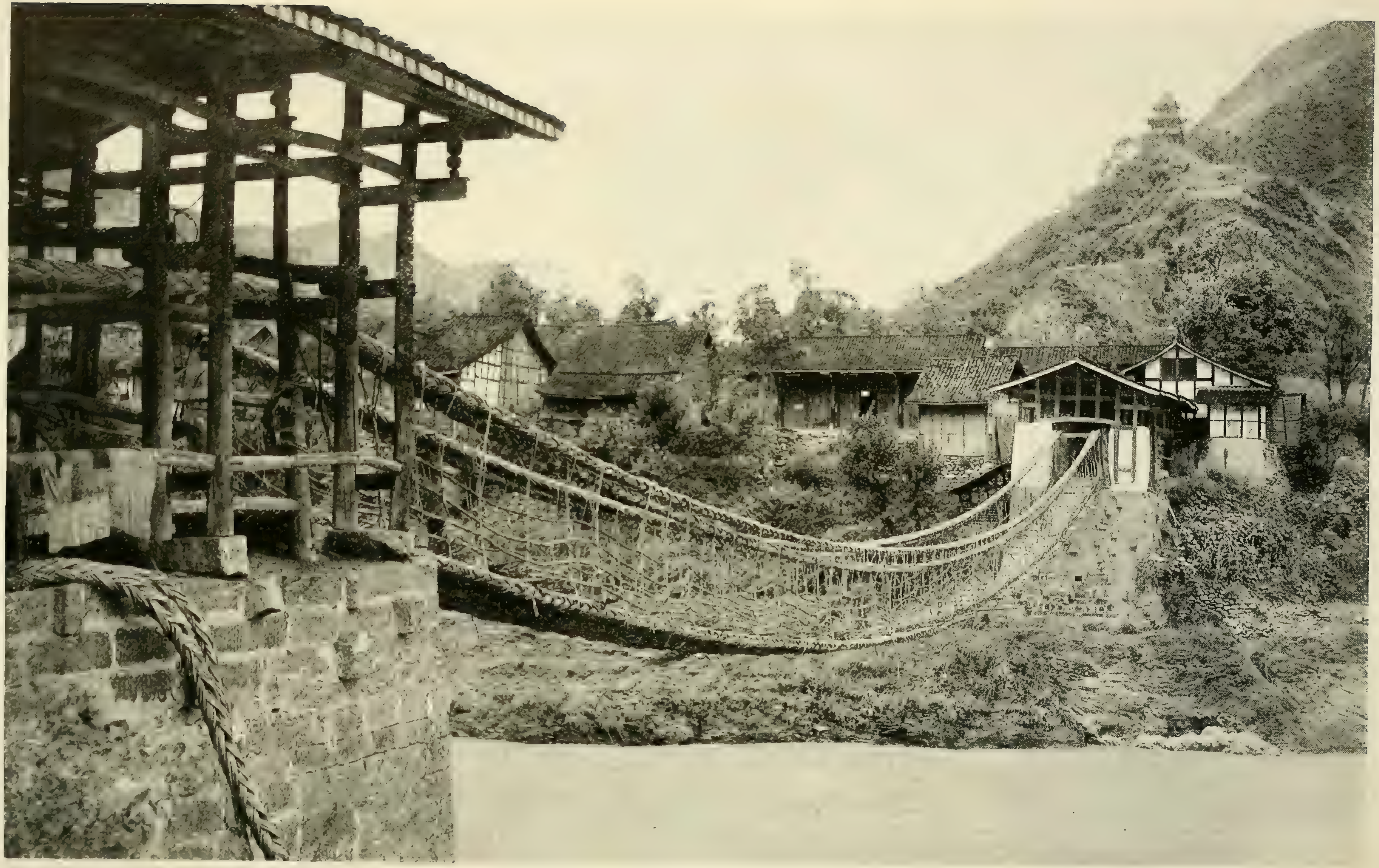
THE "EMBROIDERED CITY" IN A FERTILE PLAIN

Returning once more to the Big Road and passing without comment its towns and cities, located about ten miles apart, we come to Cheng-tu, the Perfect Capital, a vice-regal city of half a million people, ruling over Sze-chuan and Tibet. It is surrounded by a finely constructed brick wall, 35 to 40 feet in height, with a thickness at the top of 20 feet and a circumference of more than nine miles.

Cheng-tu is an ancient capital, its first recorded wall being built 2,315 years ago. Marco Polo described it as a trinity of cities beautifully embellished. Its approaches were carved marble bridges which spanned its moat. Its wall, nearly 20 miles in circumference, inclosing a population of more than a million, was surrounded by rows of hibiscus trees, which in autumn bloom made it the "Embroidered City," a name that has long outlived the wall and its trees. Some conception of the toil required to erect such a wall may be gained from the historical records, which state that the construction of one of its extensions, eight miles in length, required an army of 100,000 men and 9,600,000 days' work.

Cheng-tu has given its name to the plain on which it stands.

This plain is said to have one of the finest and most ancient systems of irrigation in the world. It was perfected about



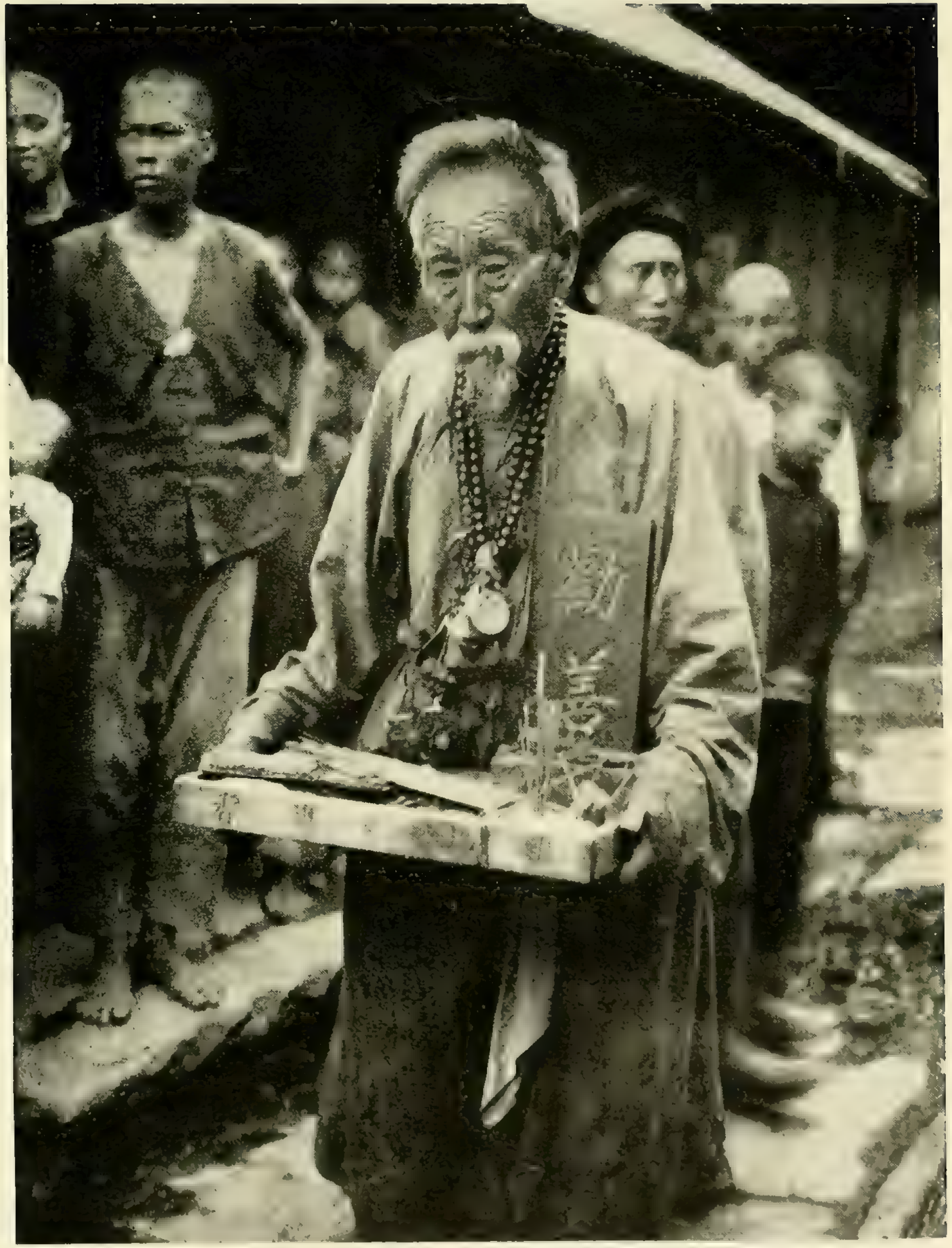
Photograph by Robert F. Fitch

A CABLE BRIDGE OF BAMBOO IN NORTHERN SZE-CHUAN

The top cables are eight inches in diameter. On the bottom cables are laid transverse boards.

Photograph by C. A. Jones

A LUSTY-LUNGED SON OF SZE-CHUAN



Photograph by Maynard Owen Williams

A MEDICINE MAN OF THE CHENG-TU PLAIN

200 B. C. by Li Ping, who has since become the patron saint of Cheng-tu—the only instance of which I am aware where a civil engineer has become a patron saint. He divided the Min into three great delta systems of rivers and canals, which radiate to all parts of the 80-mile plain. The waters are united again in two main streams, which leave the southwest and southeast borders of the plain by the Min and the Lin rivers. He left the people this motto for regulating the canals: "Keep the banks low and the bottom clean"; and this wise counsel has prevented the disastrous floods of ancient times, while furnishing a never-failing supply of mountain water for the fields.

AMERICAN EDUCATIONAL INFLUENCES

It is not, however, this fertile plain, with its irrigation and teeming millions; nor the city, with its ancient culture and modern shops; nor yet this wall, upon whose battlements we lean, that claims chief consideration, but a modern institution rising just beside it; for, interesting as is Old China, with its walled-in peoples and civilization, it holds no such world significance as the China of today, which such institutions have in large measure made possible.

We are familiar with the magnitude and importance of the work of American colleges at Constantinople and Beirut, in the Near East; but the far-reaching and beneficent work of the Christian colleges in the Far East is not so generally recognized. In marked contrast to the European missionaries, who have placed comparatively little emphasis on education in China, and especially higher education, the American missionary enterprise and Christian education have from the first been inseparable and almost synonymous.

In the training of China's sons the American missionary not only prepared many of the men who have taken high place in the life of the nation, but he created the impulse that led the sons of its first families to America to complete their education.

When the Manchu Dynasty was overthrown and China was floundering headlessly about, seeking to establish a new dynasty or to re-establish the old Han Dynasty of 4,600 years ago, it was a small group of men trained in Christian and American colleges who were the Jefferson and Hamilton of the Chinese Constitution and who brought the most ancient of monarchical countries in line with the democracy of our day.

The intimate relation of the Christian college to the progress of the nation is not, however, limited to parliament. Graduates of these colleges are superintending its great iron and steel plants, directing its railways and telegraphs; holding portfolios in the cabinet and sitting upon the Supreme Bench; directing in large measure the educational policy of the nation and bearing their full share of the spiritual responsibilities in the church, the Christian schools, and the Y. M. C. A. Should we look into the embassies of that great, so-called heathen nation, we meet Dr. V. K. Wellington Koo at Washington and at London Hon. Alfred S. K. Sze, M. A., both graduates of a Chinese Christian college.

CHANGING CUSTOMS IN CHINA

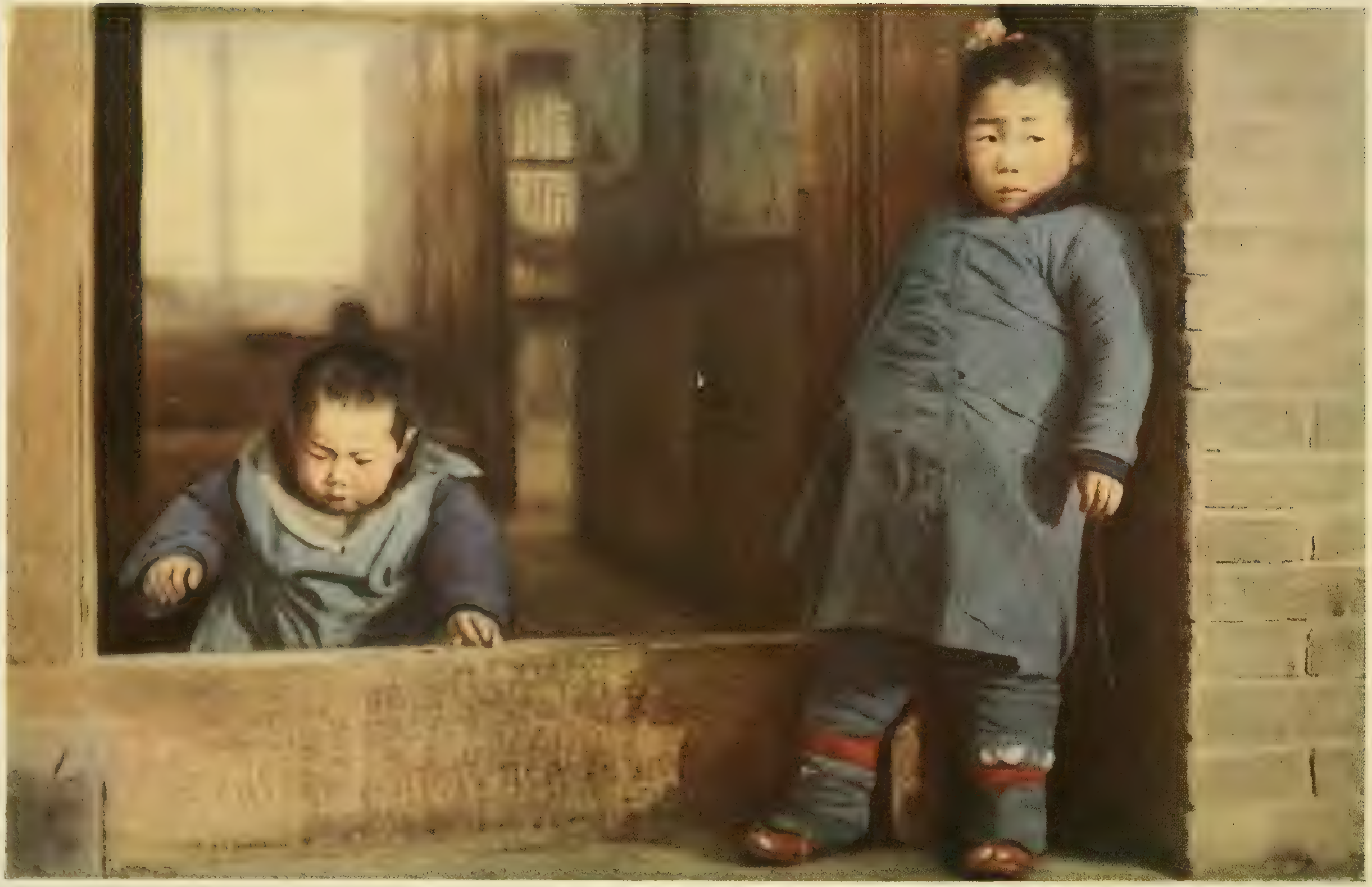
Ignorance, which breeds superstition and bolsters wrong, is not confined to China, but it has found Christian education in that nation its worst enemy. Many of the gods of yesterday have been tumbled into the ash-heap to make way for the school-boy with his books, and what was religion to many yesterday is useless superstition today.

Customs that were respected hitherto are now despised. For centuries little children have been bound at the altar of custom to hobble with constricted feet to a painful old age. Preaching and protest went unheeded until the Christian girls' schools demonstrated that big-footed women were the queens of the land, not its slaves. Students now in government schools are announcing that they will not marry girls who have not natural feet, and girls with bound feet parade the streets with their little feet in big boots.

The reason is evident. Big feet and brains have come to be synonymous. Government schools are refusing admission to bound-footed girls, and the better classes are in the big-foot crusade. Women in useful service have come with the new order.

© Mrs. H. P. Kimball

"West to the sinking sun,
Where the junk sails lift
Through the homeless drift
And the East and the West are one."



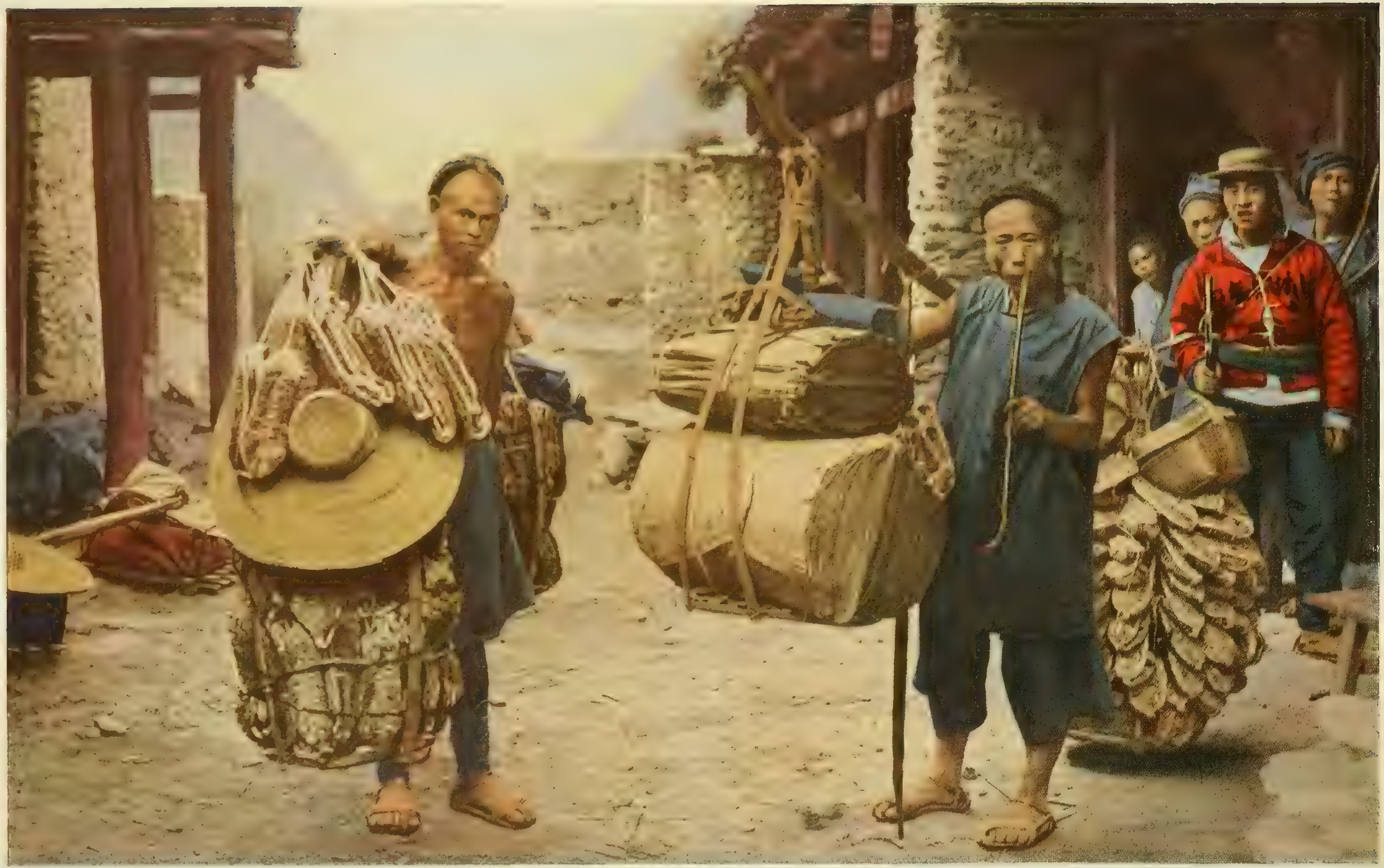
LITTLE CELESTIALS AT PLAY

Chinese little folks are protected from the cold not by woolen garments, but by an increased number of layers of clothing, which gives them a humorous appearance of roundness.

Photograph by Robert Fitch

THE WATER GATE SPRING

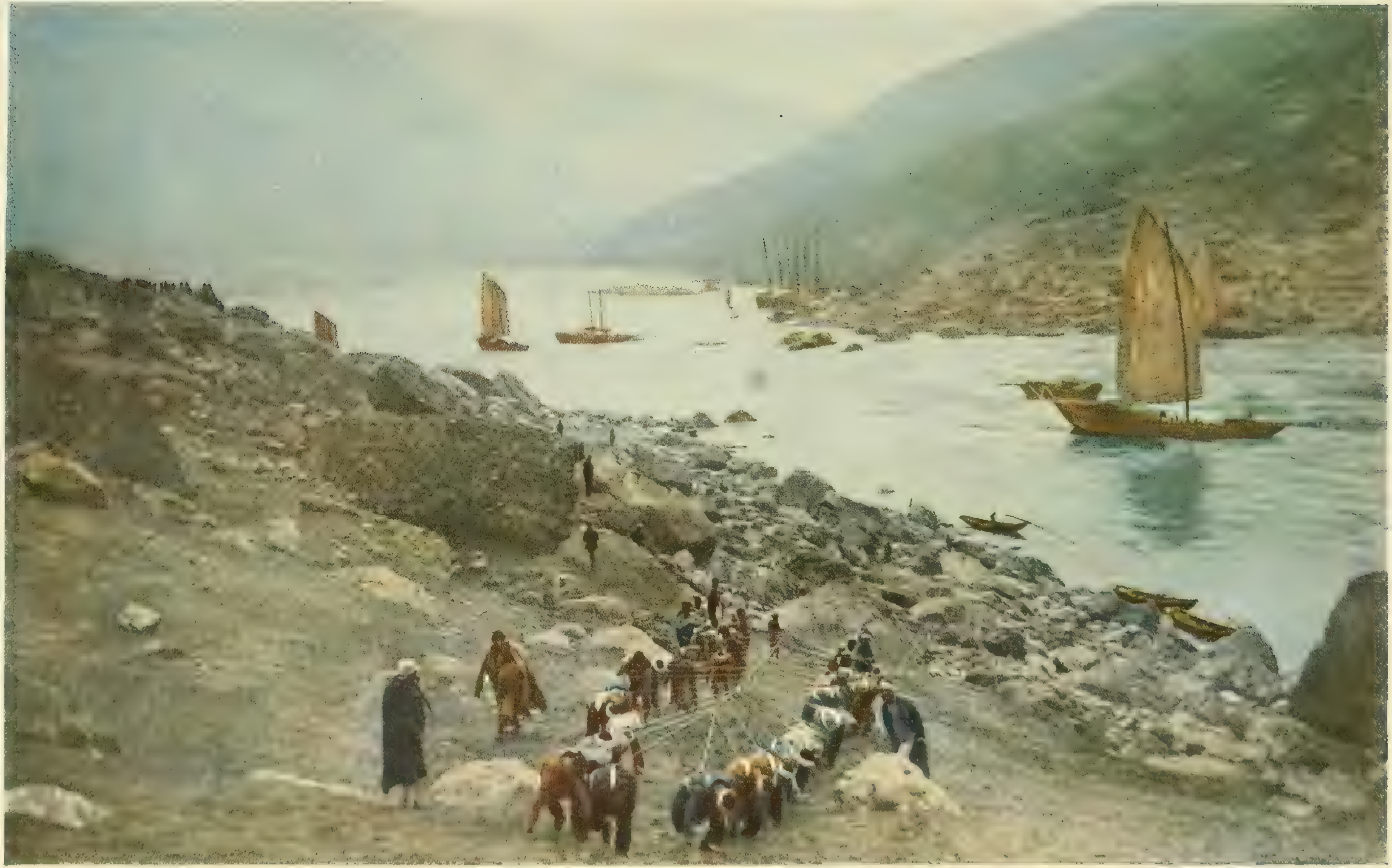
Fantasy of form and variety of hue lurk in every nook and corner of China's cities. Merrily upturned pagoda roofs and gay lanterns vie with bright costumes. Her centuries of accumulated beauty will give the world joy through a long forever.



Photograph by E. H. Wilson

COOLIES WITH BAMBOO PRODUCTS: MIN VALLEY; SZE-CHUAN

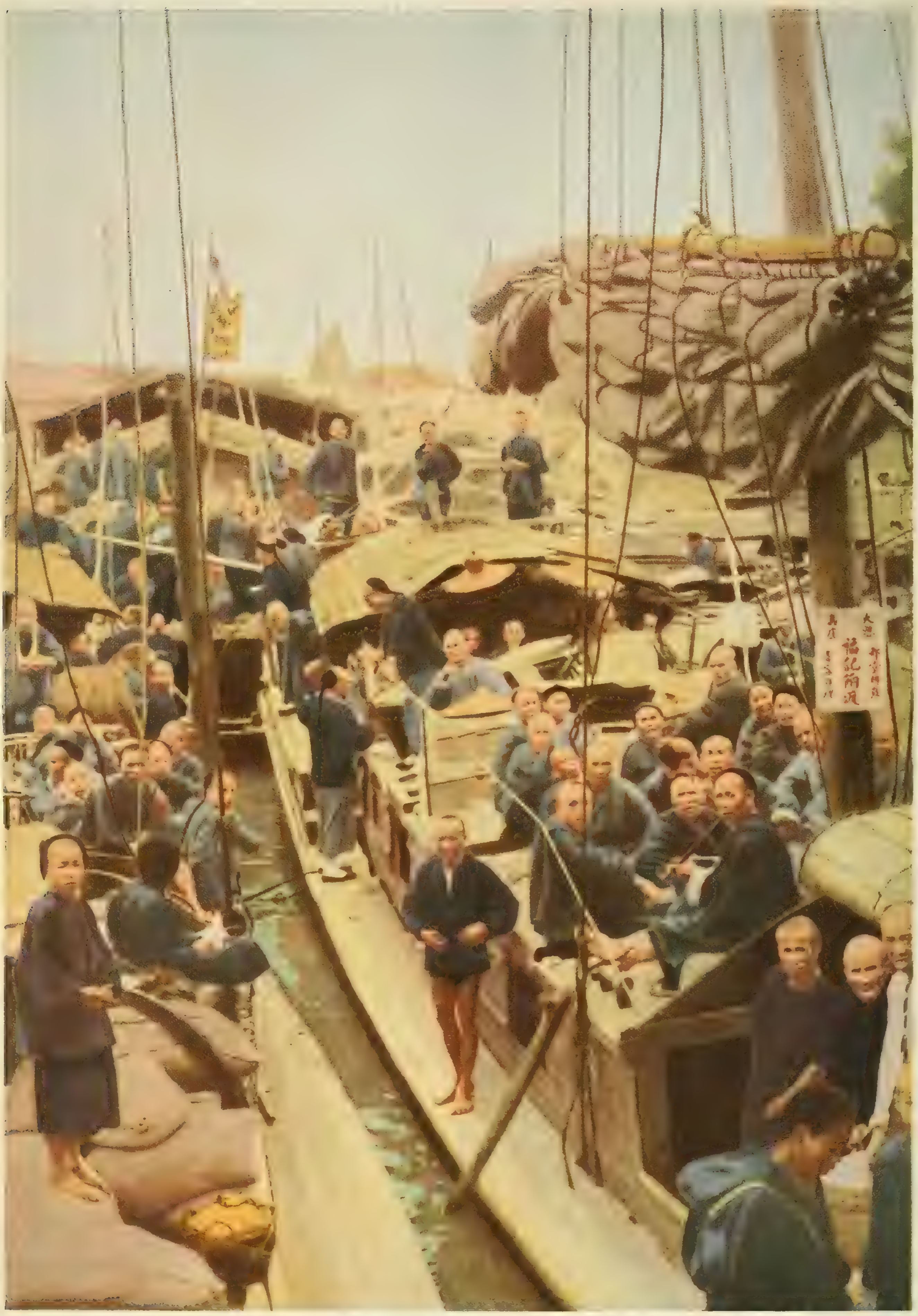
Bamboo is used endlessly in China, and here are sandals, hats, sheaths, carrying poles and even a pipe made of this ubiquitous plant. Its fruit, tender shoots and seeds are used for food, and the Chinese have a belief that it produces grain more plentifully in the years when the rice crop fails.



Photograph by E. T. Shields

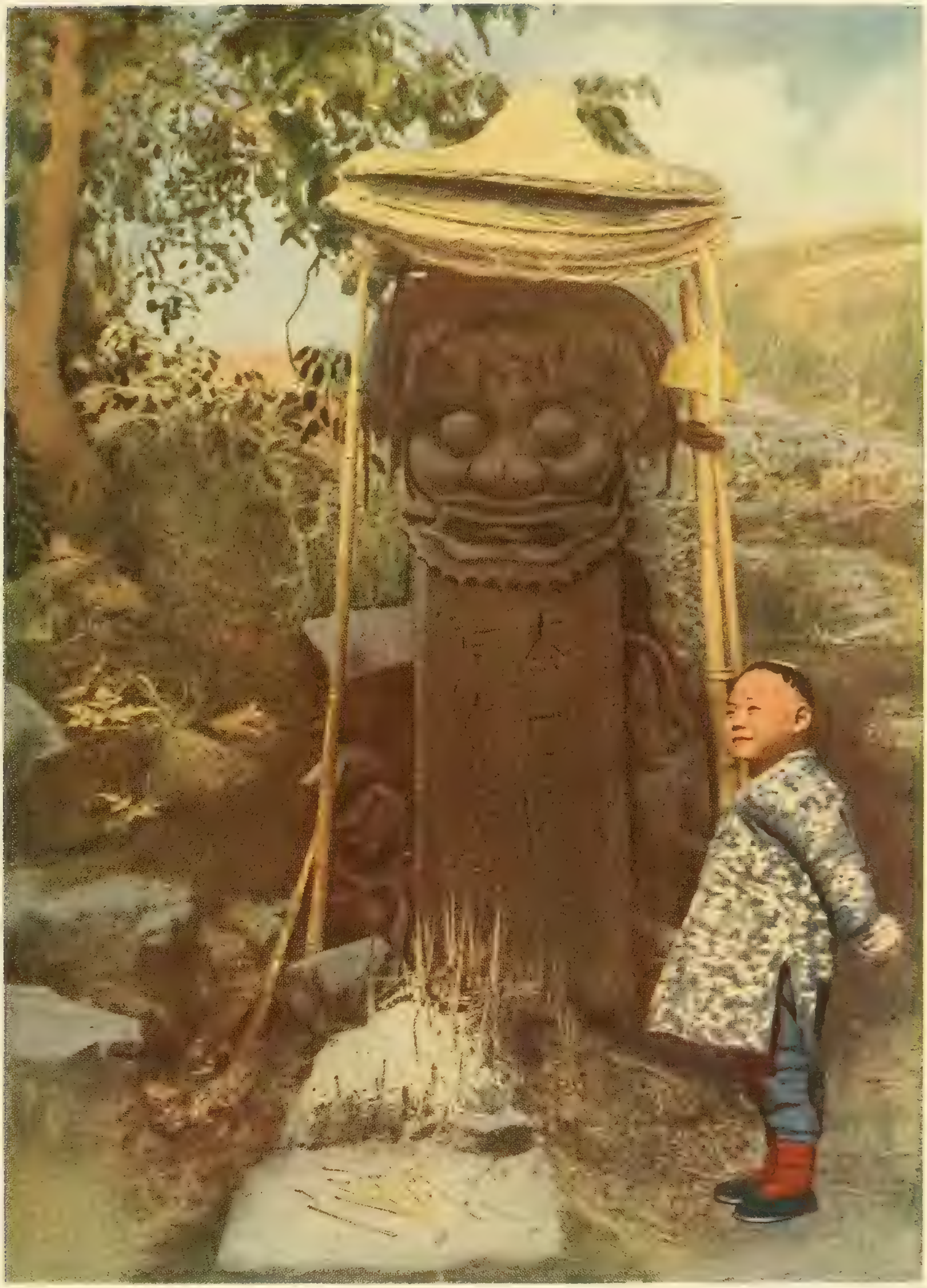
THE DRAGON RAPIDS OF THE YANGTZE

The great river takes its upper course through a succession of magnificent gorges, past cities set picturesquely among the mountains and an occasional temple capping a crag. Harnessed to a bamboo cable, the trackers in the picture are hauling a junk through the perilous rapids.



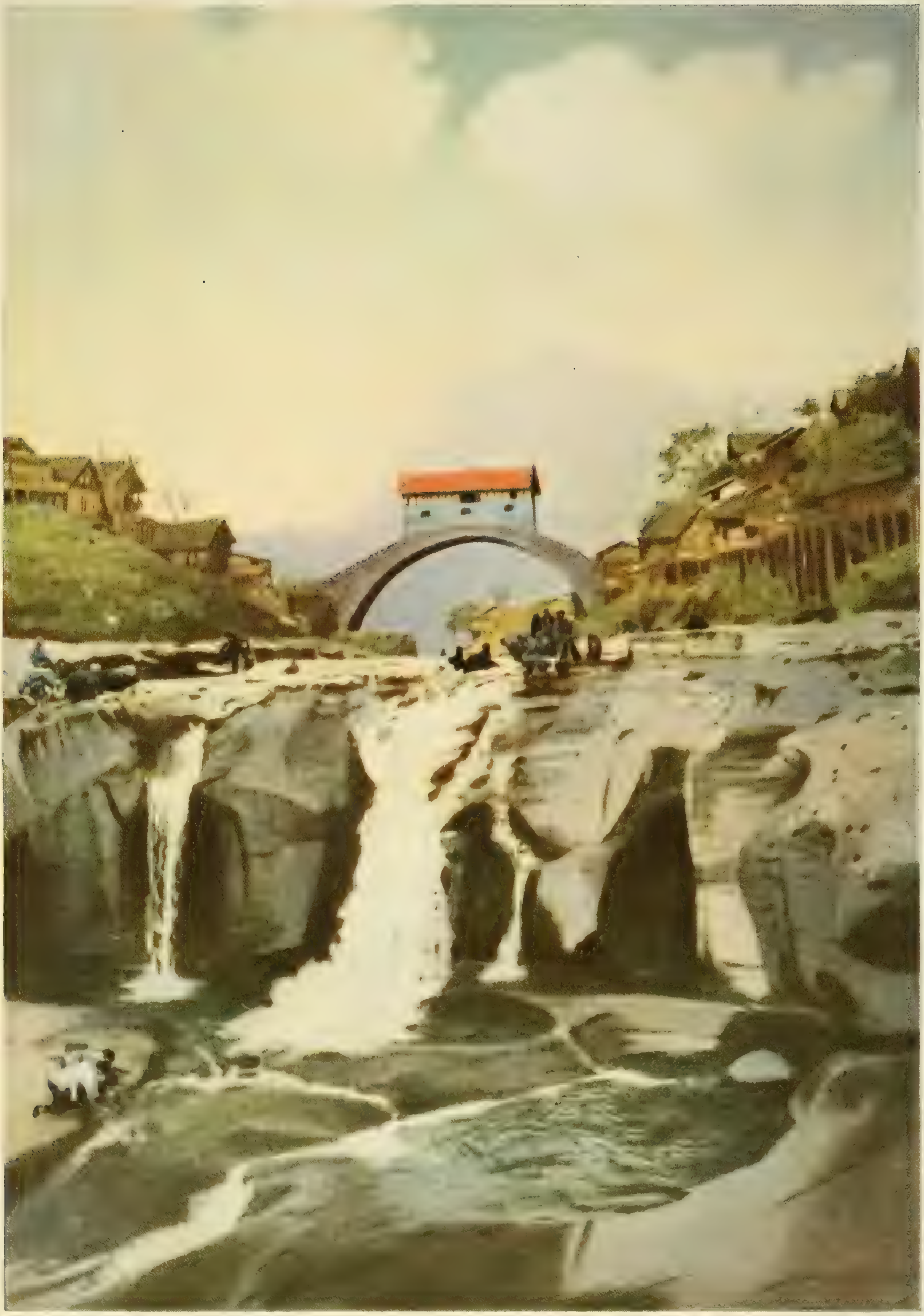
BOAT DWELLERS AT CANTON

The Tan-min or inmates of the river boats are a strange class, long regarded as outcast, who live by the carrying trade. From birth to death, their crowded, turbulent lives are spent upon the river. Tradition says they originated from political refugees.



AN O-MA-TO-FU STONE

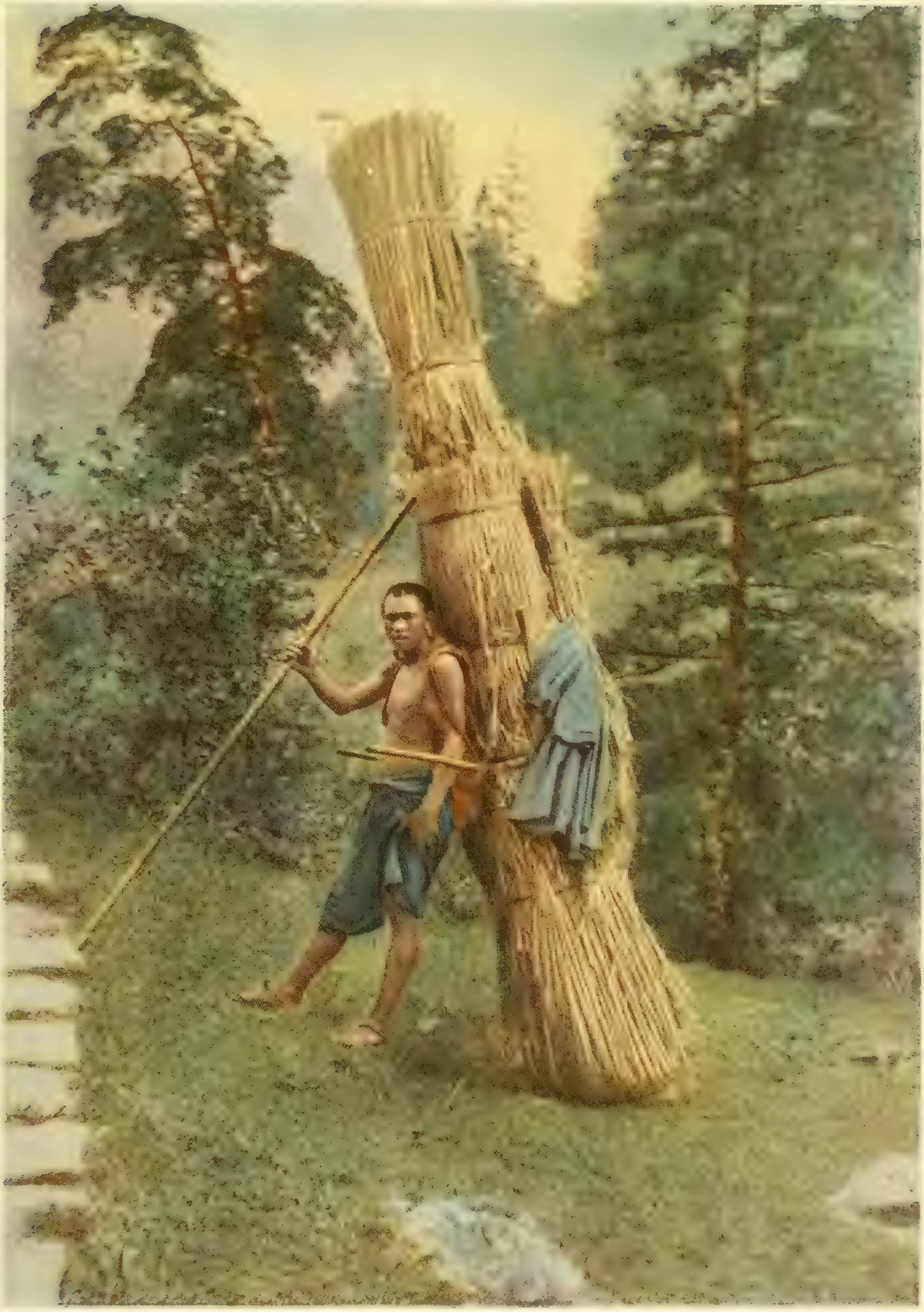
The stone marks the resort of a kindly spirit. With its terrific carven features incongruously sheltered by straw hats, the image inspires an Occidental with irreverent amusement, which at least one little Chinaman seems to share. The red-tipped prayer sticks have been placed here, however, by one more devout.



Photograph by S. R. Vinton

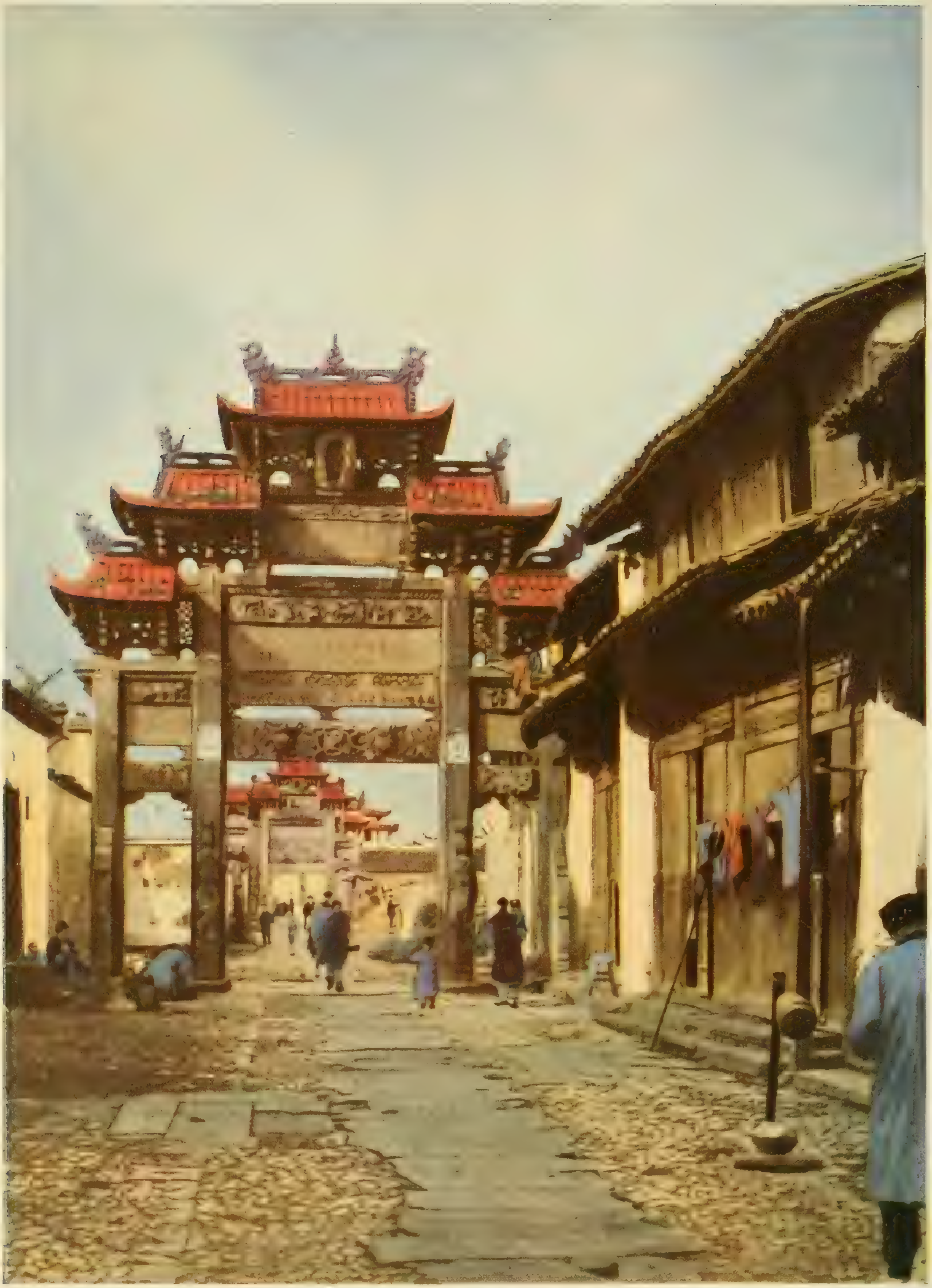
THE BRIDGE AT WAN-HSIEN, SZE-CHUAN

Not even the handiwork of Nature in rushing water and towering rock is more beautiful than the stone arches that span the many streams of Sze-chuan province—the "western East." The bridge at Wan-hsien is one of the most graceful.



A COOLIE AND HIS BURDEN

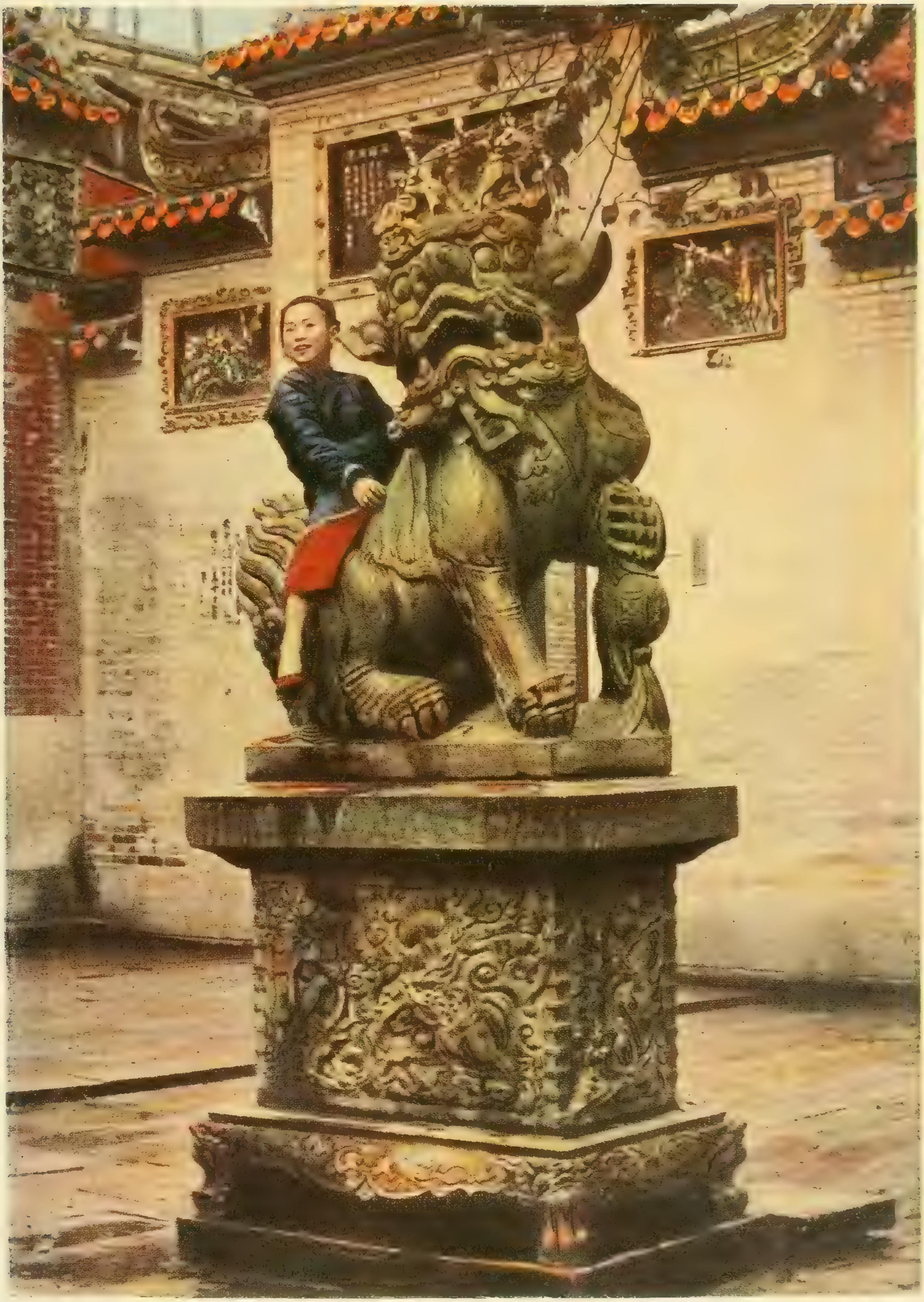
Among the burden-bearers of mountainous Sze-chuan are to be found examples of such magnificent physique and power that the traveler cannot entirely regret China's lack of railroads and labor-saving machinery, since the absence thereof assures such splendid specimens of manhood to the race.



Photograph by Robert Fitch

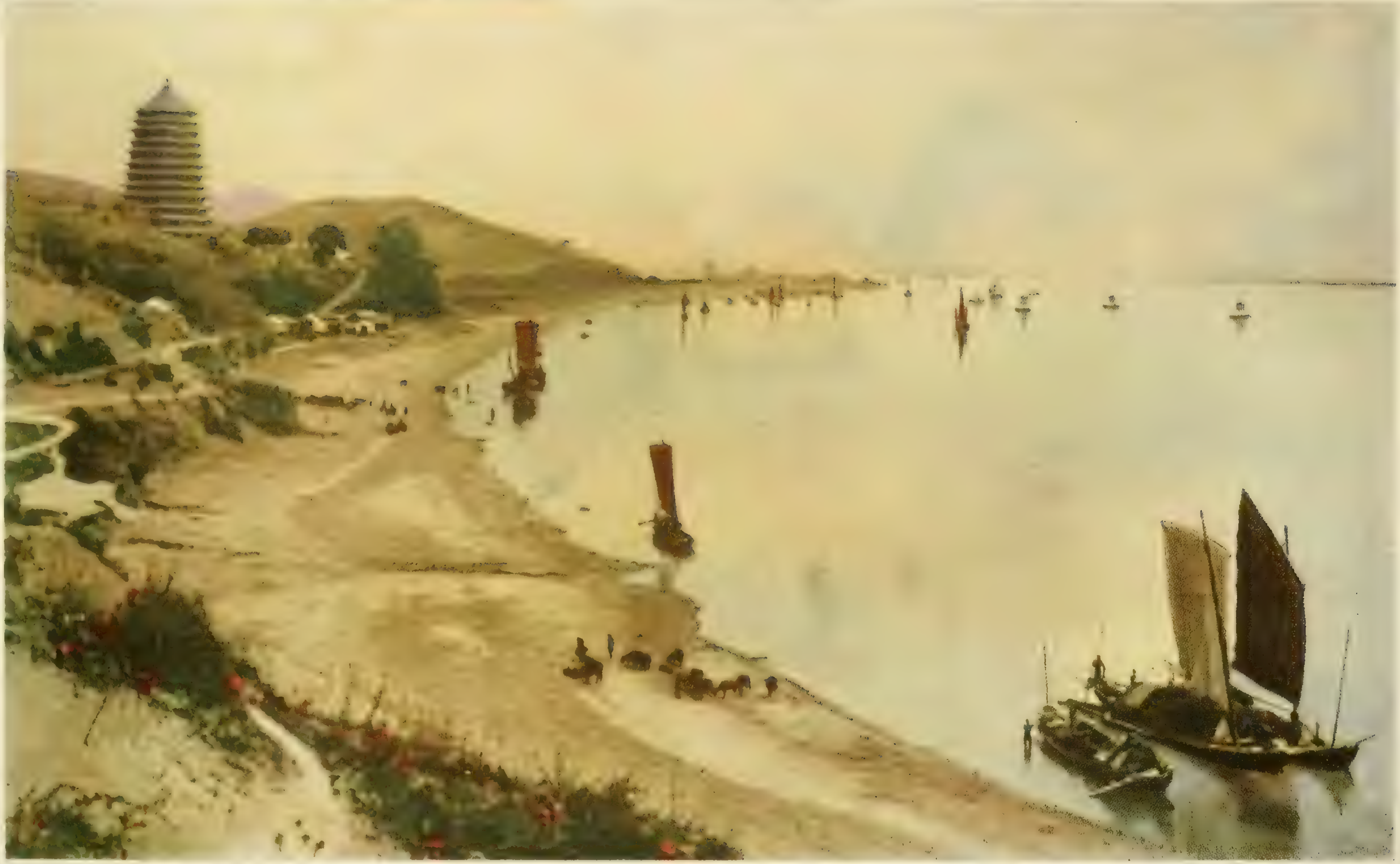
WIDOWS' MONUMENTS IN YEN-CHAU

No medieval craftsman decorating a beloved cathedral ever wrought with more devotion to every detail, more delicacy and finish, even in hidden and shadowy parts, than do the builders of these beautiful arches.



YOUNG CHINA

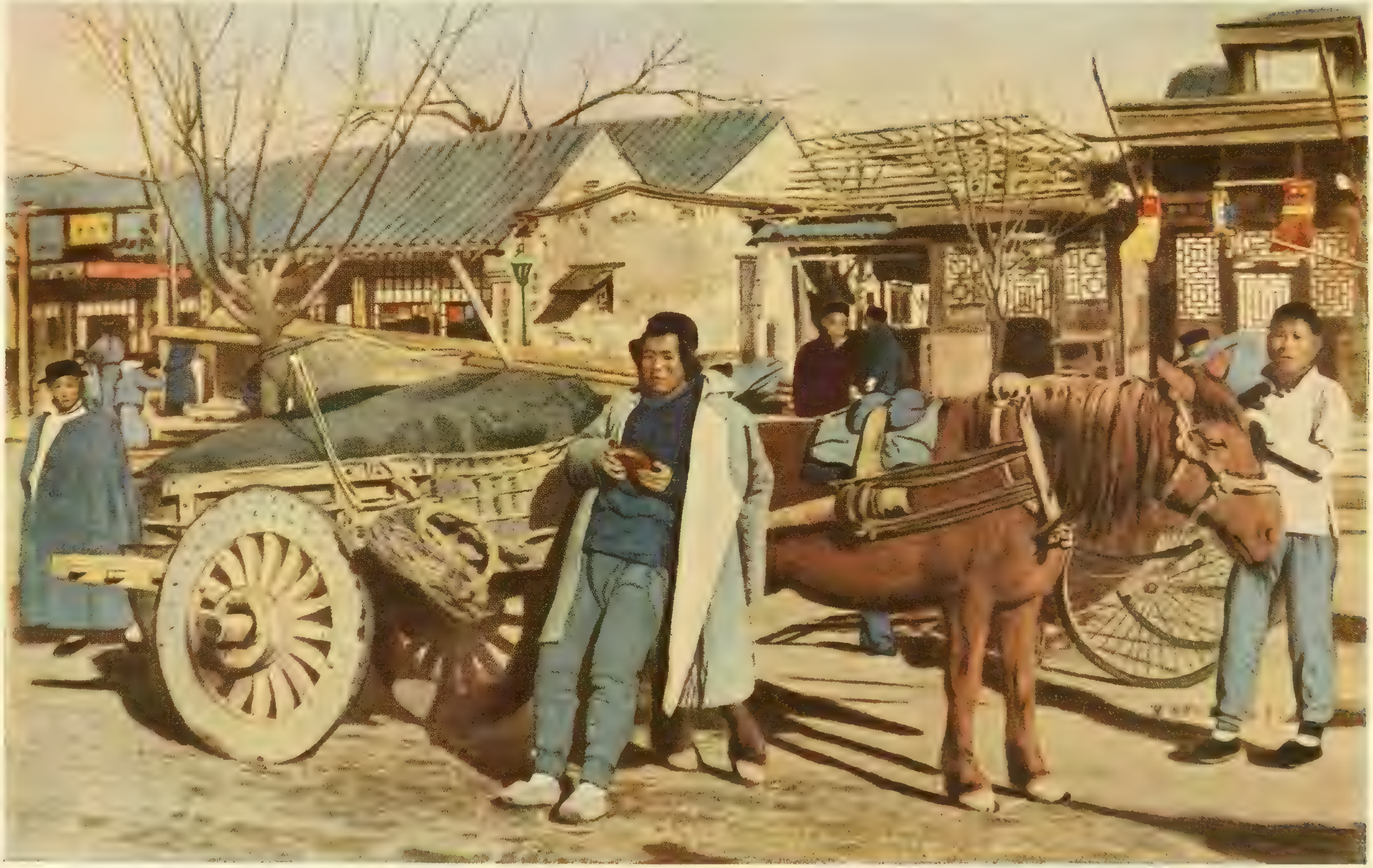
Here is a type of Chinese childhood as light-hearted and active as any European or American boy. Too often the struggle against want crushes out youthful qualities at an early age, giving rise to the generalization that Chinese children are not inclined to sport and exercise.



Photograph by Robert Fitch

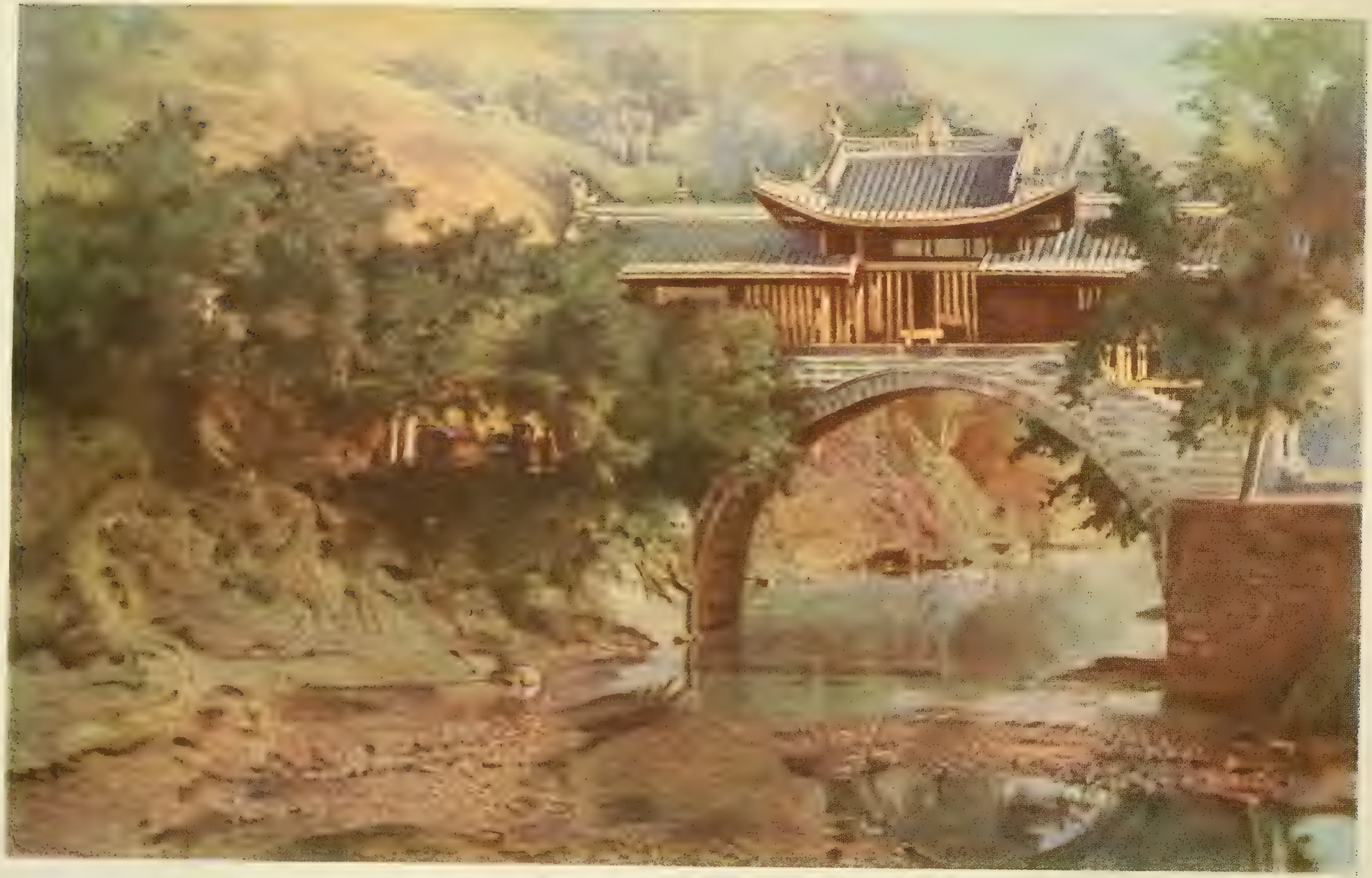
THE TSIEN-TANG RIVER NEAR HANG-CHAU

Legend says that the tidal bore for which Hang-chau is famous is really the spectre of the Prince Tse Hsu riding up the river. The mighty wave crest seen by the light of the moon has a ghostly majesty and fury suggestive of the warrior prince.



A STREET IN PEKING

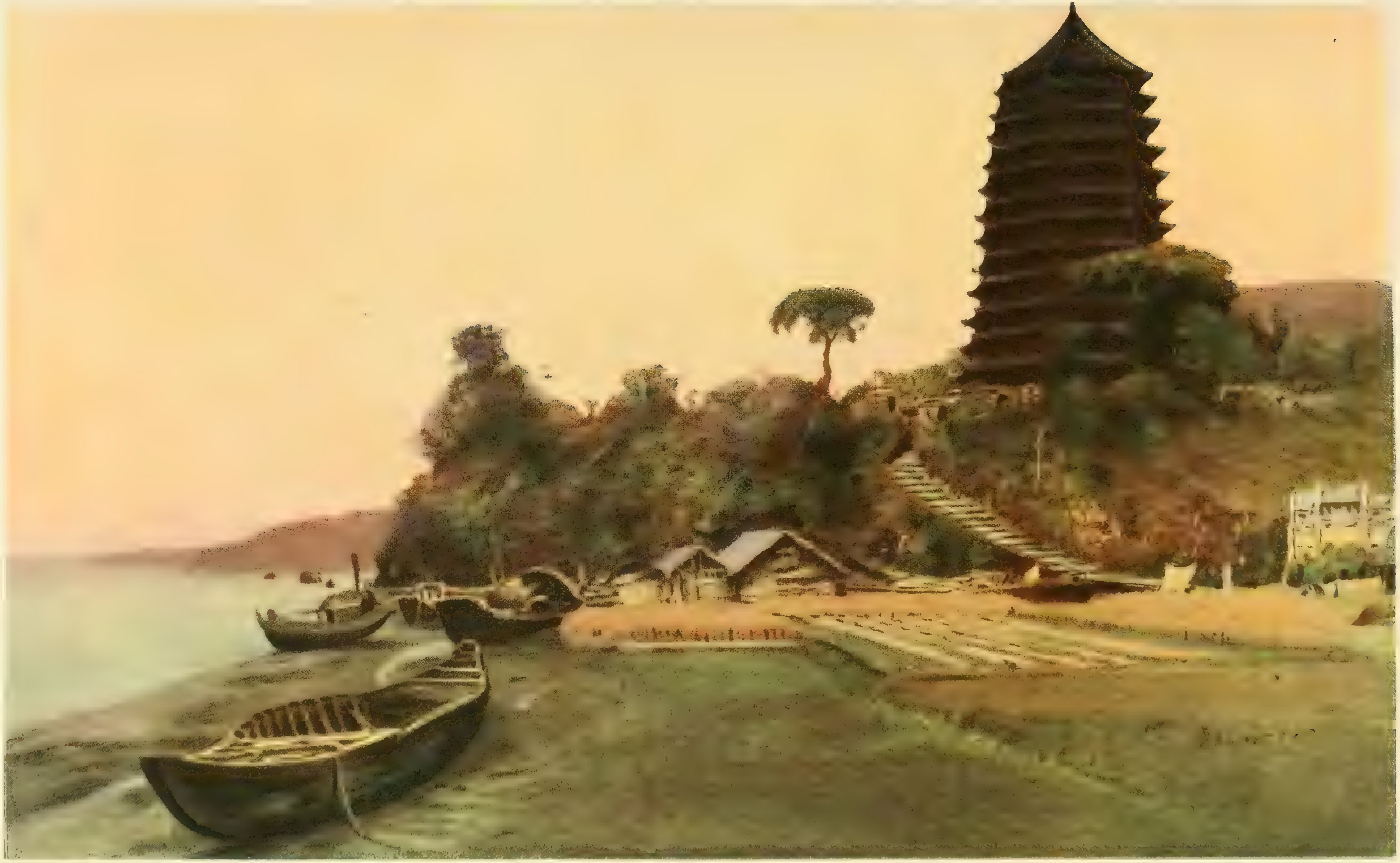
Past and present, the picturesque and the everyday are mingled in the Chinese capital. Here is an improved and very modern highway, and a springless Peking cart which would insure a rough ride on the smoothest road.



Photograph by S. R. Vinton

A COVERED BRIDGE WEST OF CHUNG-KING

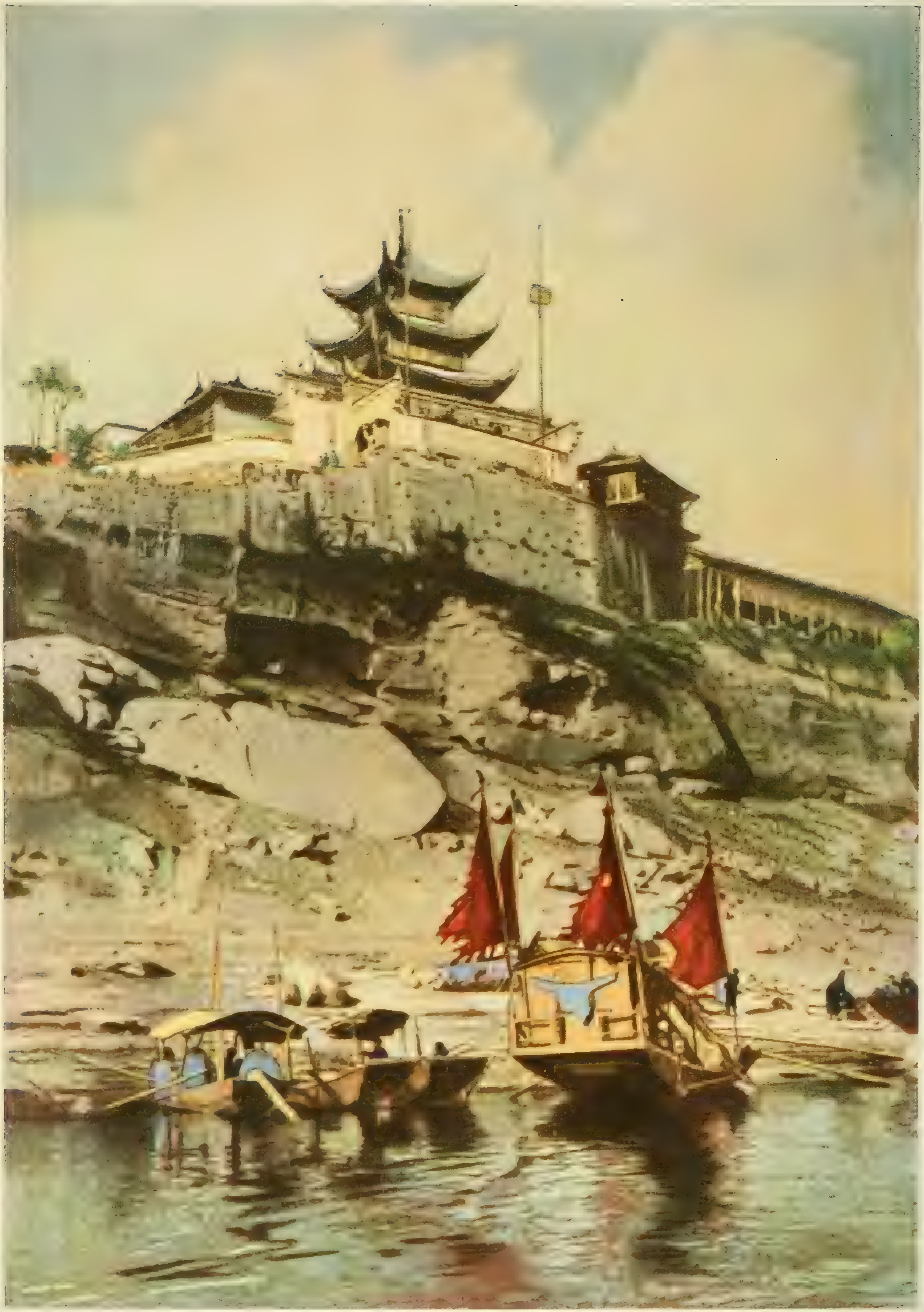
The more fortunate residents of Chung-king, during the warm, moist summer, escape from the crowded city to the surrounding, delightful hill country. Through a vista at the left may be seen sedan chairs and their bearers on the road.



Photograph by Robert Fitch

THE GREAT SIX HARMONY PAGODA NEAR HANG-CHAU

The stately pagoda is supposed to control the winds and the turbulent waters of the Tsien-tang. While many may doubt its mystic influence, none can deny the loveliness of the scene it commands from the tree-clad bank of the broad river.



Photograph by S. R. Vinton

OUTSIDE THE WALLS OF CHUNG-KING

Chung-king is China's Pittsburgh, a great, busy, crowded, foggy city at the junction of the Yangtze and the Kia-ling. Its grim wall, steep, rocky streets, great flights of wet stone steps up which the water supply is carried by man power, and the turmoil and complexity of its commerce are the antithesis of the Pennsylvanian mart, but characteristic of interior China.

THE WORLD'S ANCIENT PORCELAIN CENTER

BY FRANK B. LENZ

With Illustrations from Photographs by the Author

CHINA is a land of literature, art, and scholarship. It is also a land of ignorance, superstition, and misery. It is the country made famous by the printing-press, mariner's compass, gunpowder, the Great Wall, tea, silk, jade, paper, and ancient porcelain; it is the home of plague, famine, intrigue, flood, graft, and corruption.

Conservative of the conservatives, it is also a radical among radicals. One sees in every city ancient, decaying temples, with their oriental systems of religion gradually giving way to the progressive, onward march of civilization. Change, change; nothing is permanent in China but change.

Industrially the country is in the same state that Europe was in before the approach of the industrial revolution. It is in the handicraft stage of development; but in cities like Canton, Shanghai, Hankow, Changsha, and Tientsin the most modern machinery of the twentieth century is seen in operation every day. This is not China. The real China has yet to learn the value of the machine.

FOUR-FIFTHS OF CHINA'S POPULATION IS DEVOTED TO MANUAL LABOR

Perhaps the only factor which permits China to compete in a commercial way with the rest of the world is its cheapness of labor.

It has been repeatedly said that the cheapest and most abundant thing in the country is human life. The common man of the farm or of the city is the coolie, properly called "k'u li," or, better, strength. When we reflect that 80 per cent of China's vast population is forced to labor hard, barehanded, for a mere physical existence, we can begin to grasp the significance of its industrial situation. No modern inventions; no machines have come to set it free. Like Edwin Markham's "Man with the Hoe," the Chinese worker feels the weight of centuries of toil upon his shoulders.

The economic problem today is tragic, and were it not for its natural characteristics of patience, China would be in the throes of a bloody revolution.

THE HOME OF THE WORLD'S PORCELAIN INDUSTRY

The greatest industrial city of China is not one of the treaty ports, where the direct influence of Western progress is constantly felt, but a bustling interior city of Kiangsi Province—Ching-teh-chen.* This is the famous porcelain and pottery center of the nation—indeed, it is the original home of the porcelain industry of the world.

There are few cities in America or Europe that are so completely given over to a single industry as this one. Though the methods of production are primitive, the city must still be classed as an industrial center. It was my rare privilege to visit this conservative, but interesting, old place and see with my own eyes the fascinating process of pottery-making from beginning to end.

Chinaware! What does the word connote? It is simply a ware made of clay and named for the country that first produced it. Whether it be a green tile from a temple roof, a dish, a vase, or a painted ornament from a wealthy Celestial's home, it all has a traceable connection with Ching-teh-chen. With the Chinese, Ching-teh-chen and porcelain are synonymous.

In order to get a fair understanding of the situation, it will first be necessary to let the reader know the location of this place and something of the difficulties in reaching it.

HOW TO REACH CHING-TEH-CHEN

After locating Shanghai on the map of China, one should trace his way up the Yangtze River to Kiukiang, south of which lies Po Yang Lake. The quickest and surest way of reaching Ching-teh-

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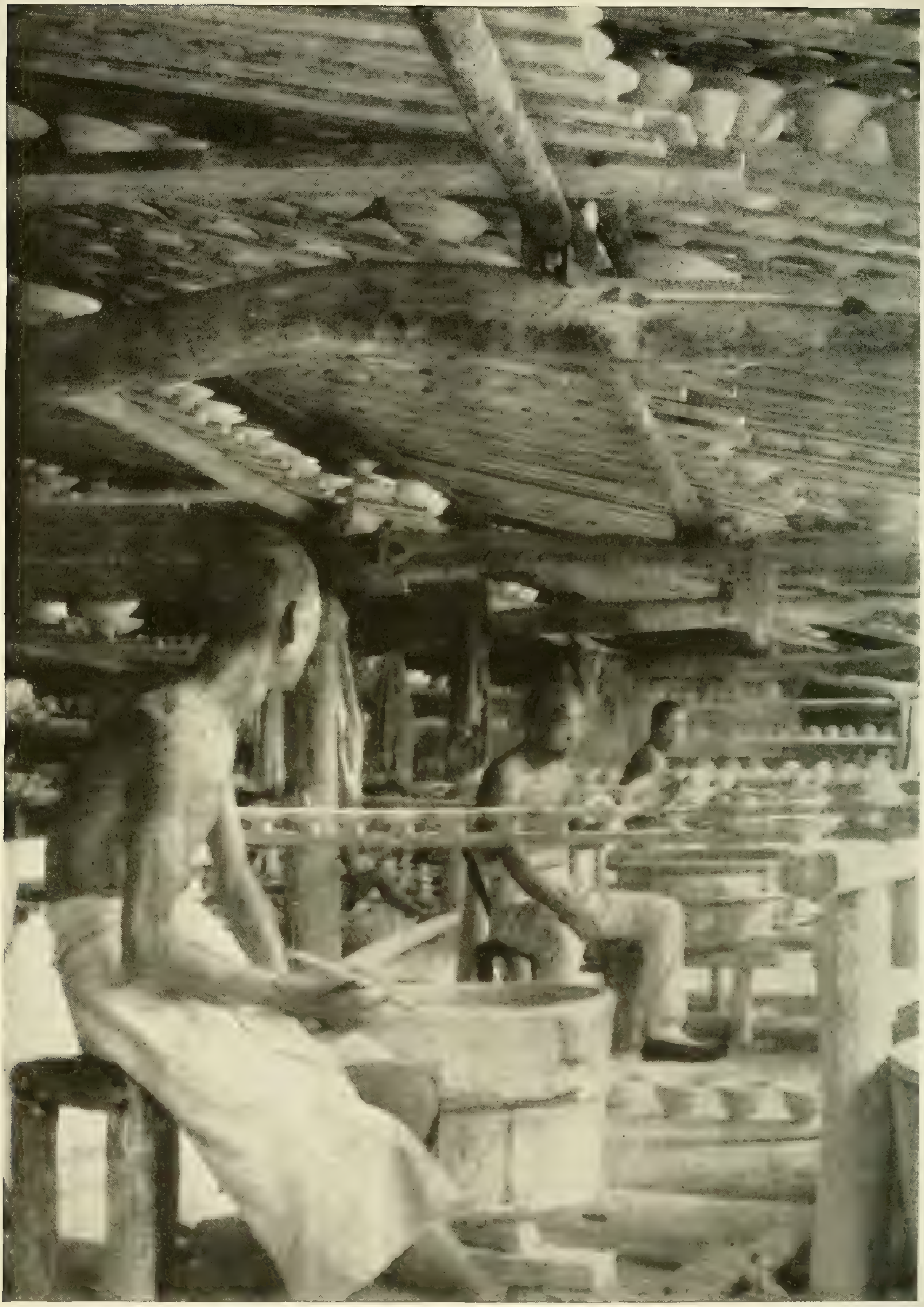
* The city is designated on many maps as King-teh-chen, King-te-chin, or Chang-nan-chen.



ARTISTS ENGAGED IN DECORATING PORCELAIN IN ONE OF CHING-TEH-CHEN'S LARGEST FACTORIES

Note the thousands of pieces stored overhead, all awaiting the under-glaze decoration. After being decorated, the glaze is applied in one of several ways—by dipping, by being blown on through a tube, or by sprinkling. The piece is then ready for the furnace.

A BIRD'S-EYE VIEW OF CHING-TEH-CHEN SHOWING SOME OF ITS CHIMNEYS

chen is to proceed from Kiukiang to Nanchang, the capital of the province, by rail. This trip can be made in a day, barring accidents, though the distance is only 90 miles. In no respect an industrial center, Nanchang has many wonderful porcelain shops, all supplied by the factories of the porcelain city.

In prospect it did not seem a difficult task to cover the distance between Nanchang and Ching-teh-chen, 120 miles, but in reality the trip required more time than it takes to travel from San Francisco to New York. One must cross the east end of Po Yang Lake and then push his way up the North River into the heart of the mountains, to a point not far from the Anhwei border.

Traveling by a small and rickety steam-launch, which was completely covered with a cargo of human freight, we left Nanchang, passed down the Kan River and out across the lake. It was 8 o'clock on a June morning and the thermometer registered 90 degrees.

We steamed merrily along until noon, when we suddenly struck a mud flat. My heart sank as numerous stories of people stranded for several days in the middle of this vast stretch of shallow water flashed into my mind.

Fortunately, we were running at half speed, and after violently churning up the mud we were able to back off and strike a new course, sounding our way until we entered the mouth of the river leading to Raochow, the most important city on the lake.

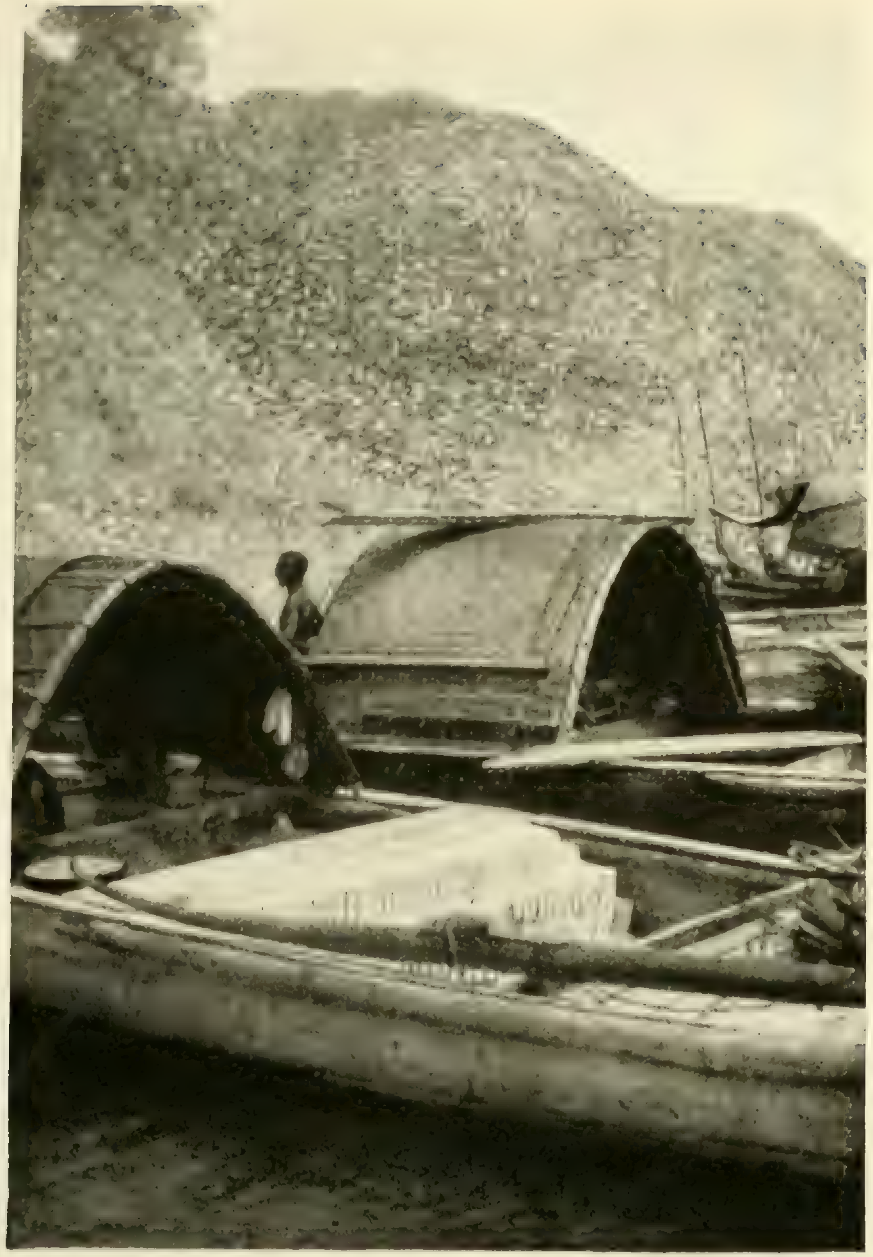
TRAVEL ON A CHINESE HOUSE-BOAT

At Raochow (also spelled Juichow and Jaochou) our house-boat experience began. With the assistance of the water police captain, we at once transferred to a small but comfortable boat. It was not, however, until after nearly an hour's delay, due to the necessity of purchasing some eggs, vegetables, and charcoal for the journey, that we started upstream against a swiftly running current, just as the stars came out.

The police captain had been informed by wire of our coming and was waiting for us with a guard. These guards are stationed at intervals along the river in "p'ao Ch'uan," or gunboats, and are supposed to help in the collection of the revenue tax and to protect travelers from bandits.

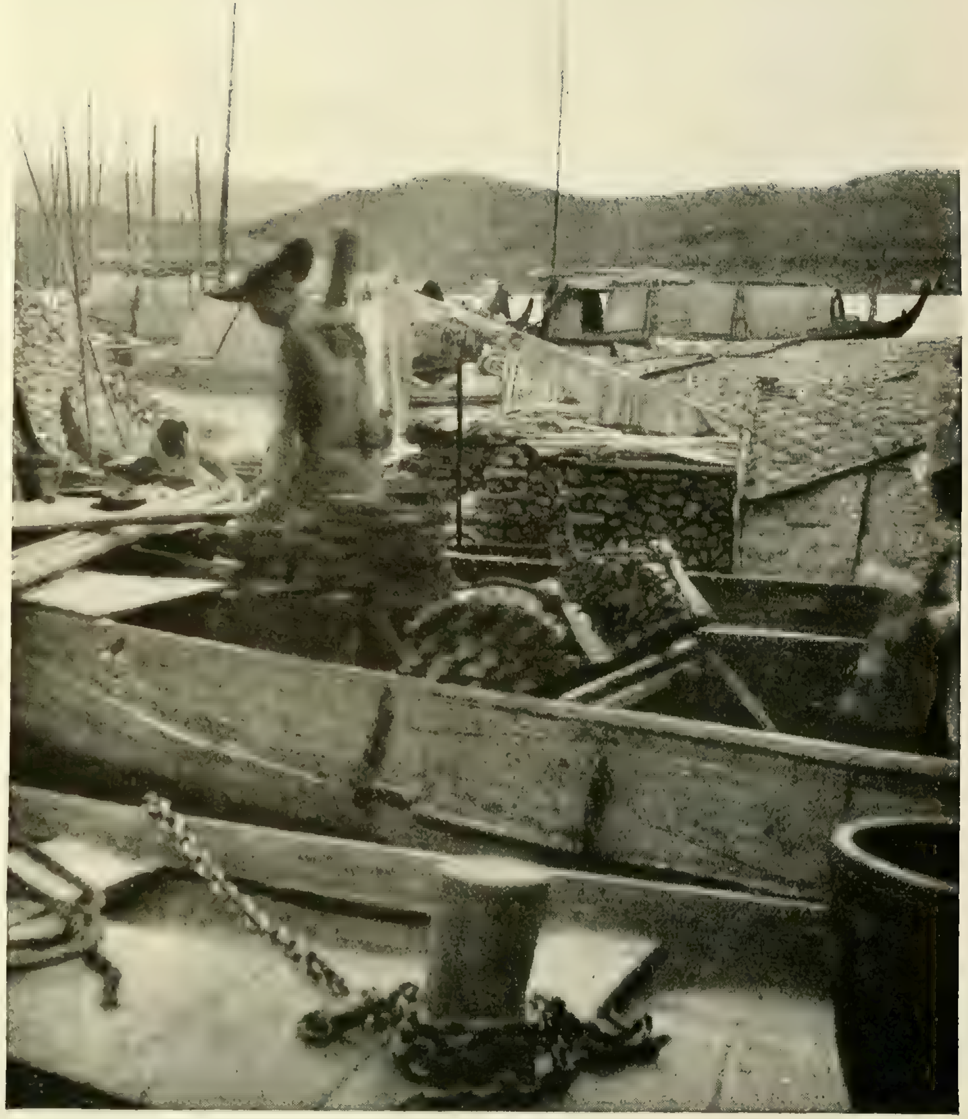
The single unarmed soldier who was provided for our protection proved very useful in steering the boat while the three boatmen paddled, poled, and pulled our craft up into the higher reaches of the stream.

All night long they worked, now and



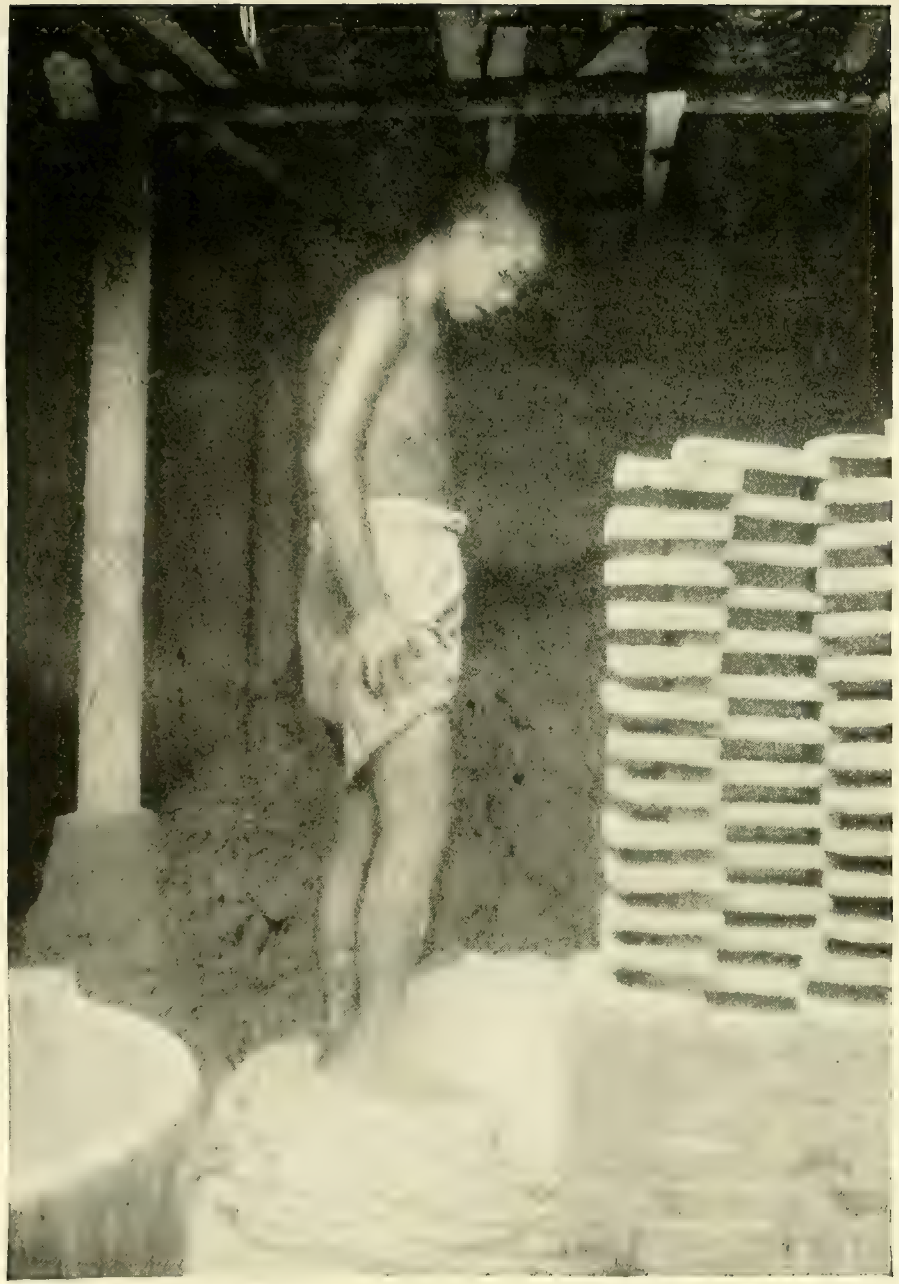
BOATS LOADED WITH SOFT, WHITE CLAY BRICKS FOR THE PORCELAIN FACTORIES

The mounds in the background are not gravel, but piles of porcelain debris, broken cups, etc.



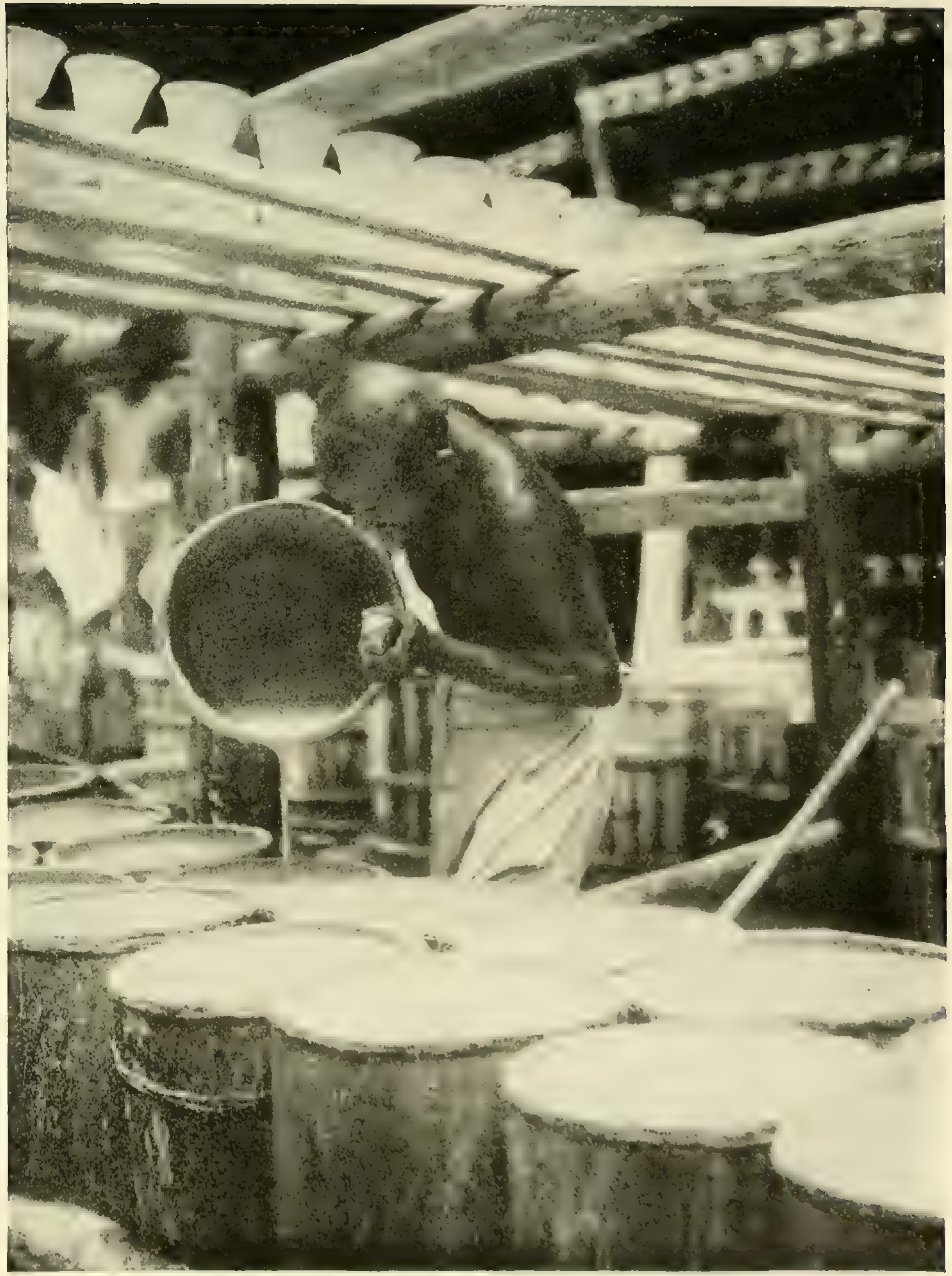
THOUSANDS OF BOATS ARE ENGAGED IN HAULING WOOD FOR THE PORCELAIN FURNACES

Only straw and wood can be used in firing chinaware. Coal has been tried, but its fumes discolored the porcelain.



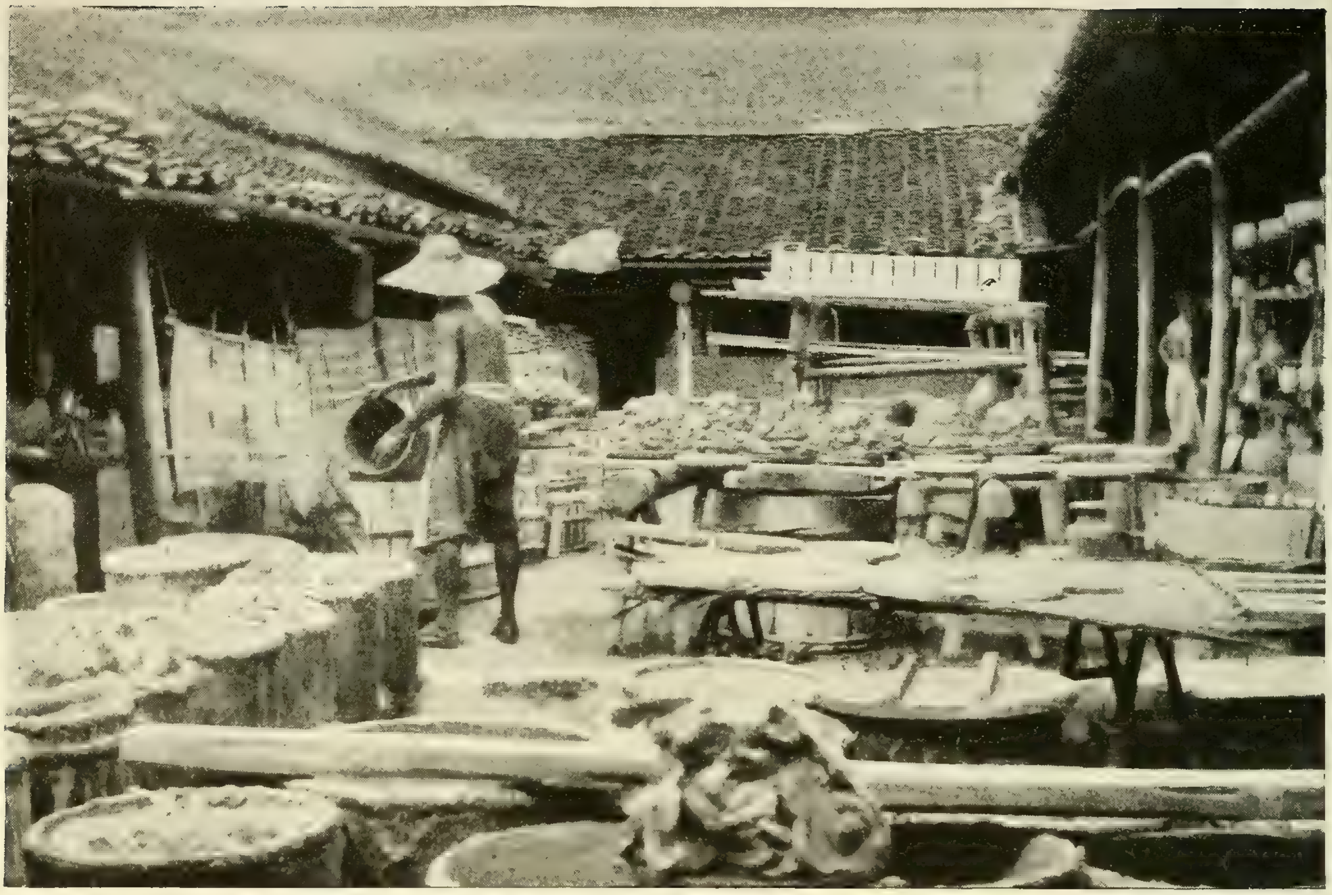
KNEADING CLAY BY FOOT-POWER AFTER IT HAS BEEN THOROUGHLY CLEANSED AND SIFTED

After the soft clay bricks have been brought from the quarries, they are "worked up" in this manner until the material is ready for the potter's wheel. More than a dozen kinds of clay are found in the neighborhood of Po Yang Lake.



THIS MILK-LIKE LIQUID IS THE PORCELAIN GLAZE READY TO BE BLOWN OR BRUSHED UPON THE POTTERS' PRODUCT

The Chinese porcelain makers pursue their occupation today with practically the same implements which they have employed for 1,700 years. There are probably fewer mechanical devices in use in Ching teh-chen than in any other industrial city of its size in the world.



MIXING PORCELAIN CLAYS: CHING-TEH-CHEN

Some clays are brittle, some are tough. This is the method of mixing used in all the factories (see text, page 401).

then singing, first to the water spirits and then to the spirits in the heavens. After an interval of rowing for a mile or more, the boatmen would rest by getting out and taking the boat in tow with a long rope attached to the mast, while the guard sat in the stern at the rudder and kept us away from the shore.

The craft itself was about 40 feet long and was divided into three sections, with space in each for two "p'u kais," or mattresses. In the stern, covered with boards, was a charcoal stove, with an ample supply of rice near by. The principal articles of food were eggs, rice, fish, several kinds of vegetables, and tea—good, substantial food when one is living in the open. By removing the floor and standing on the bottom of the boat, one could assume an erect position with ease.

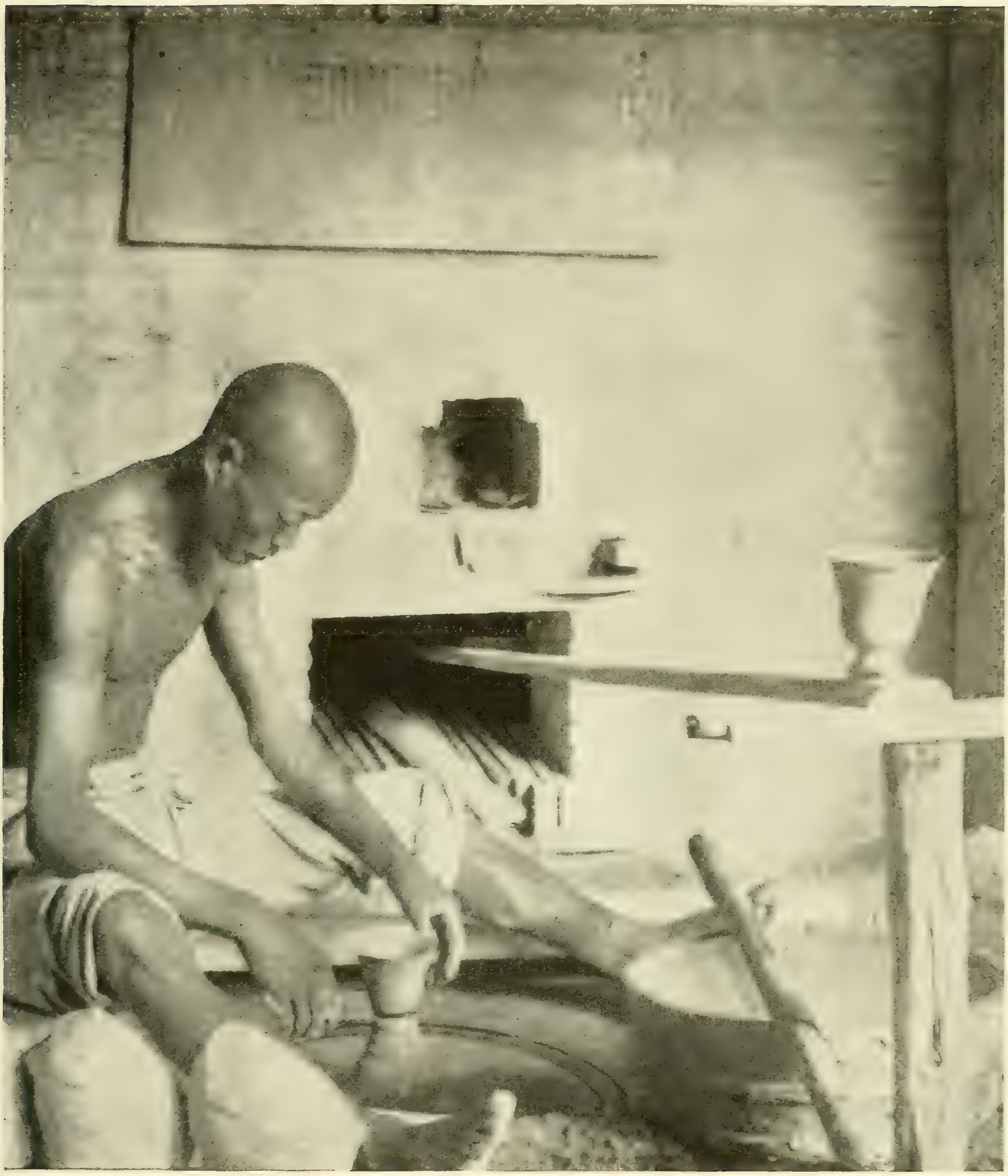
Life on a house-boat means an abundance of fresh air and freedom from the ever-present and noisy Chinese crowd. To appreciate its comforts, one must make the boat his dwelling-place long enough to grow attached to it.

Late in the afternoon of the second day out from Raochow we approached Ching-teh-chen. I shall never forget the thrill I experienced as I first caught sight of the smoke issuing from the chimneys of scores of kilns. Quite an ordinary scene in any Western industrial city, but here, far away from the main routes of travel, in a conservative, interior province of China, it was as striking as it was unusual.

The first view one gets of any Chinese city is likely to be the bold outline of a tower or temple, but in Ching-teh-chen the first thing that caught our expectant gaze was something entirely different.

A CITY WONDERFULLY SITUATED

The situation of Ching-teh-chen is perfect, from the Chinese point of view. The city is located between the mouths of two rivers which flow into the North River, one from the east and one from the west. The town is naturally supplied with an abundance of fresh water, the clearness of which still stands out in my mind in vivid contrast to the muddy yellowness of the Yangtze and of Po Yang Lake.



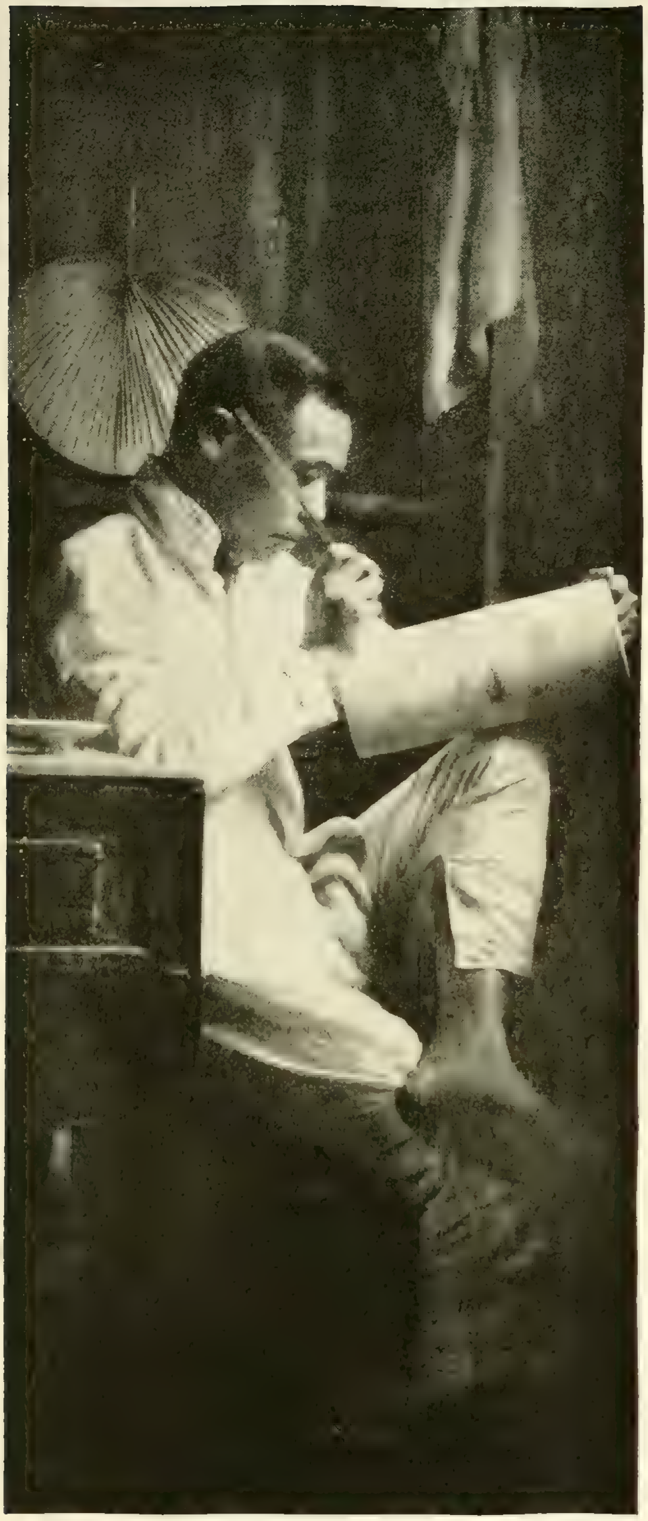
THE POTTER AT HIS WHEEL

After placing the ball of soft clay on the knob of the rapidly revolving wheel, he deftly forms a cup, vase, or bowl with mechanical precision.

Beautiful hills completely surrounded the city, those on the east rising to a height of about two thousand feet. The river banks are dotted with pine and camphor trees, while occasional groves of bamboo in lighter green add a charm and beauty difficult to describe. For most of my life I have lived among the giant redwoods of northern California, the stateliness and vastness of which have always deeply moved me. In them I saw strength and power. But in the groves and trees of Kiangsi I found a softness and beauty typical of another world—a tropical world.

LONGFELLOW PAID TRIBUTE TO CHING-TEH-CHEN

Ching-teh-chen ("Town of Scenic Virtue") is one of the four largest towns of



THE BEST DECORATIVE ARTISTS RECEIVE THREE DOLLARS A DAY (MEXICAN)

The unskilled wielders of the brush earn as little as twelve or fifteen cents a day, however. The men are paid not by the hour, but according to the quality of their work and the number of pieces finished.

China. Technically, it is a town, because it has no wall. In reality it is a busy industrial city of 300,000 people, two-thirds of whom are engaged in the manufacture and sale of porcelain. Romantically, it is a city to stir men's souls. Longfellow, in his "Keramos," speaks of it in these words:

> "And bird-like, poise on balanced wing
> Above the town of King-te-tching,
> A burning town, or seeming so,—
> Three thousand furnaces that glow
> Incessantly, and fill the air
> With smoke uprising, gyre on gyre,
> And painted by the lurid glare,
> Of jets and flashes of red fire."

PORCELAIN HAS BEEN MADE HERE SINCE 220 A. D.

Historically, it dates back to the Han Dynasty, 220 A. D., during which period we find the first records of the production of porcelain in China, though earthenware vessels were probably produced some centuries earlier.

Two main streets, about three miles long and conforming to the contour of the river, comprise the principal thoroughfares.

The city is about a mile wide. Furnaces, warehouses, shops, and homes are crowded together in a hopeless tangle. Great mounds of chipped and defective porcelain, clay chips, and broken dishes are piled high along the river bank. In fact, we first noticed these pieces of porcelain in the bed of the stream several miles below the city, washed down by high water. These dumps must be 30 or 40 feet thick. They represent the accumulated offcastings of the kilns for centuries. From an eminence to the west I counted 78 big yellow chimneys, this number being about half the smokestacks in the city. It is said that Ching-teh-chen in her most flourishing days boasted several thousand kilns.

A CITY OF 300,000 POPULATION WITHOUT A NEWSPAPER

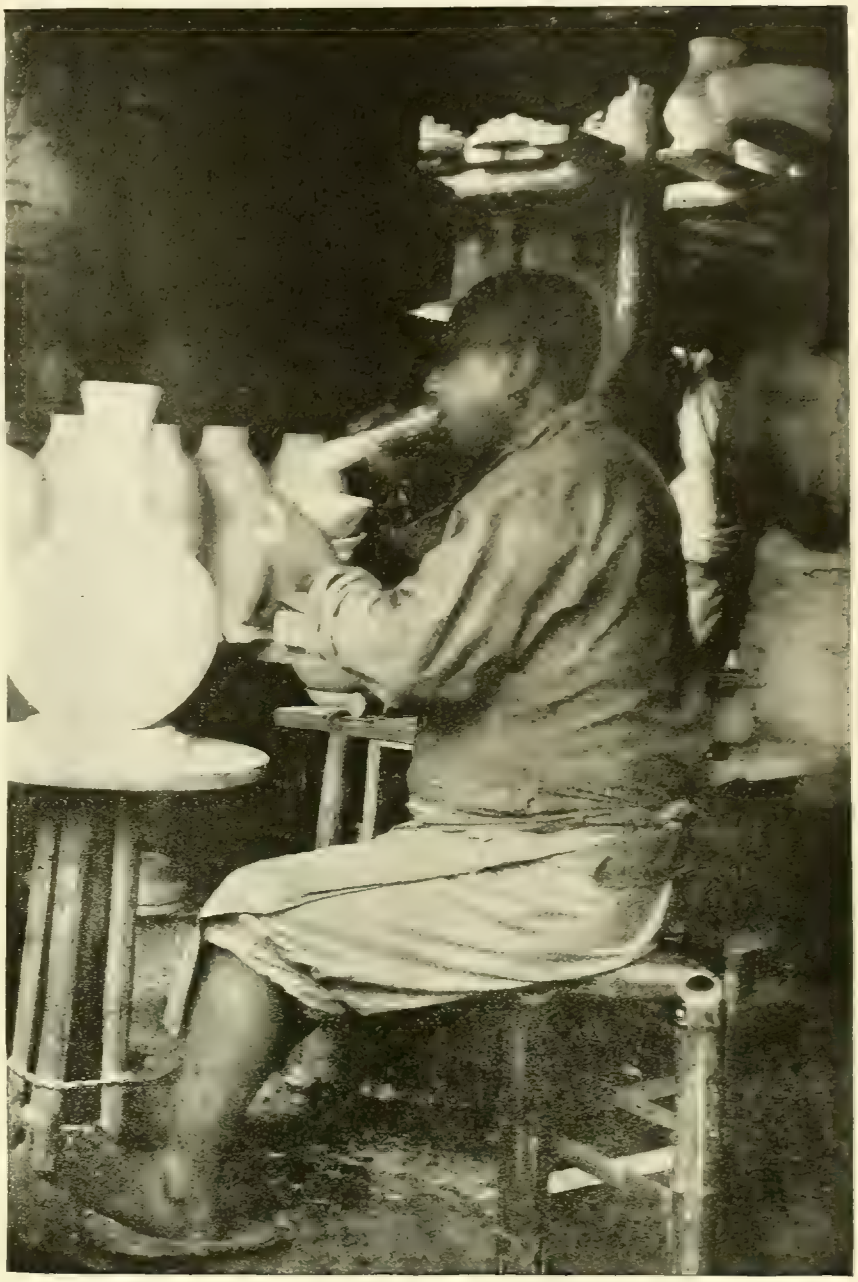
The most unusual feature of the City of Porcelain is its conservatism. "Bu k'ai t'ung" (not open to communications) is heard on every hand. Although China is the home of the printing-press, there is not a single newspaper, either daily or weekly, published in this city of more than a quarter of a million inhabitants. The reason given for this unprogressive state of affairs is that the magistrates have always opposed the press, on the one hand because they are afraid of its political influence, and on the other because of the financial support that would be involved.

Ching-teh-chen is devoid of electric lights and telephones. The few rickshaws which now facilitate communications are fighting for existence. While we were in the city a number of workingmen's guilds petitioned the Chamber of Commerce to abolish the rickshaws on the ground that they interfered with traffic.

There are many indications of progress, however. Christianity is influencing the life of the city through three Protestant churches—the China Inland Mission, the Methodist Episcopal, and the American Protestant Episcopal — and the Catholic Church, which has been in Ching-teh-chen for 60 years.

A park, located beside a lotus-covered lake, is the recent creation of a liberal-minded magistrate. Within two years this has developed into a social center, with its industrial museum, restaurant, arbors, open paths, and walks. It is the only place in the city where one can get a breath of fresh air.

The Orphan Asylum is an institution that cannot be overlooked. It should be properly named the Abandoned Girl Baby Asylum. Last year 245 girl babies were received by this institution through a small door in a revolving barrel which is located in a niche near the front gate. Later these babies were sent out into the homes of the city to become wives and servants of the well-to-do class.



ONE METHOD OF APPLYING PORCELAIN GLAZE

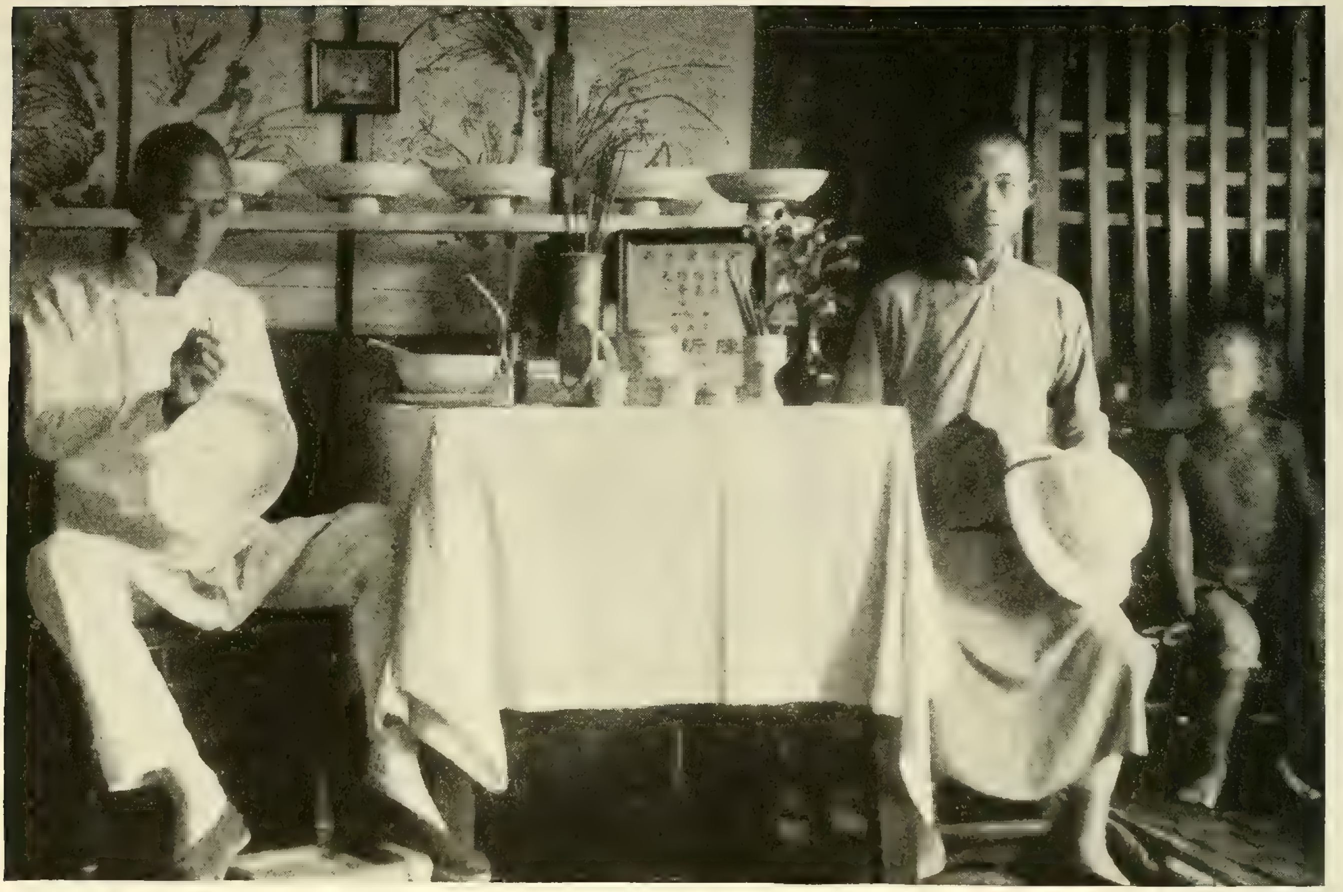
Here the operator is blowing the glaze through a bamboo tube as the vase is slowly revolved by his toe.

A DOZEN EXCELLENT CLAYS FOUND NEAR THE CITY

Ching-teh-chen has twenty-two schools enrolling about 2,000 pupils of grammar-grade age. The Chamber of Commerce is a live organization, housed in a modern foreign-style building and headed by a merchant-scholar of much executive ability.

The geographical location of Ching-teh-chen is not accidental. It became the pottery center of the country centuries ago because of the enormous quantities of excellent clay in the district around Po Yang Lake. More than a dozen kinds of excellent clay are found in the neighborhood of the lake.

The chief places from which the hard paste comes are Nan K'an, Yu Kan, Tung Keng, and C'hi Men. At C'hi Men, which is just across the border in Anhwei Province, there is a whole mountain of fine white clay.

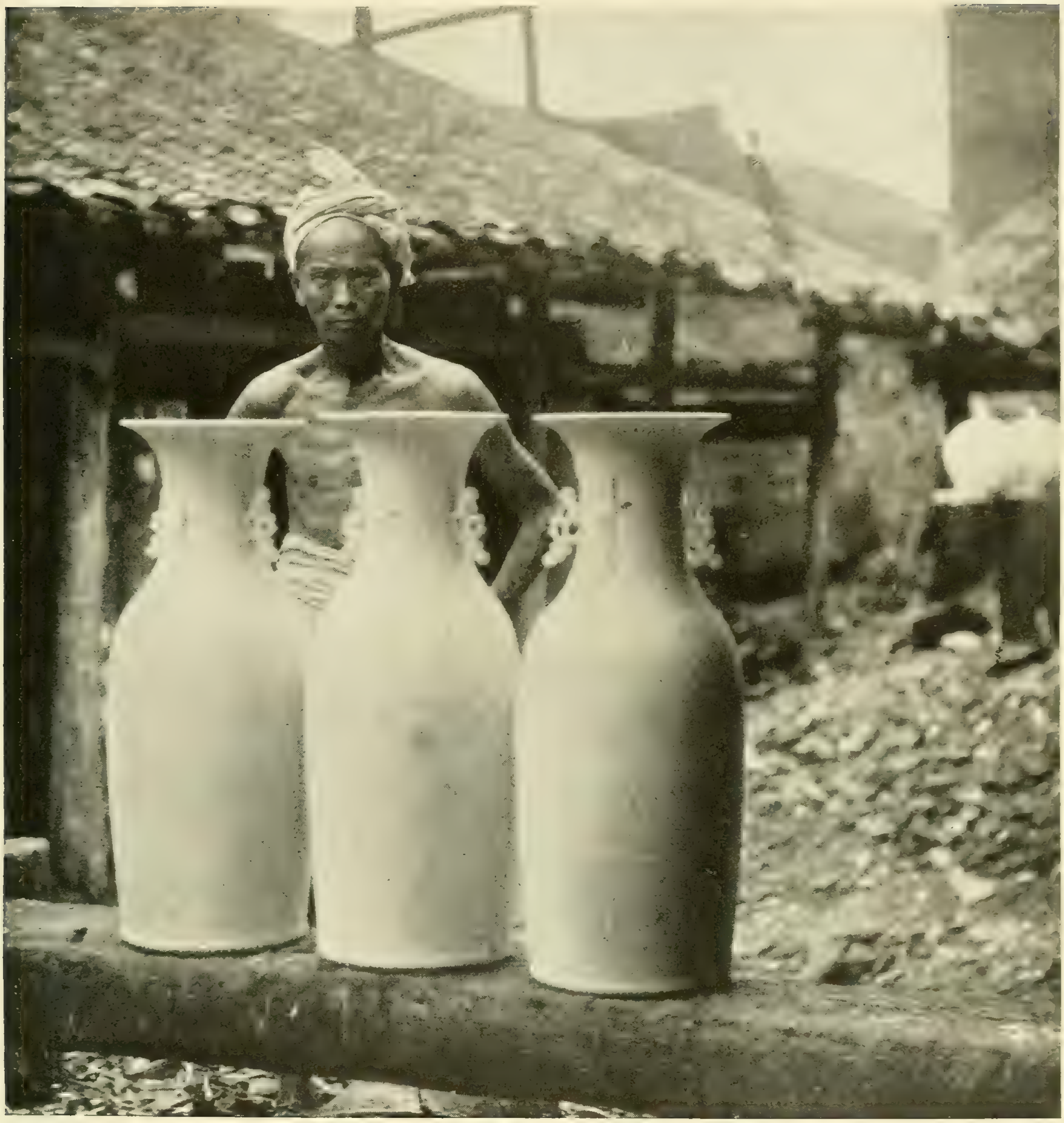


MAKING THE FAMOUS RICE-PATTERN WARE

Patient skill and no small amount of time are required in making this pattern, which is known in Ching-teh-chen as "ling lung." It is made not by pressing kernels of the grain into the wet clay, but by cutting the apertures with a sharp knife, after which the holes are filled by repeated dipping into the glazing fluid (see text, page 405).

WHERE THE TEAPOT MULTIPLIES: CHING-TEH-CHEN

In the center of the porcelain industry the product is classified according to shape, as follows: "yuan c'hi," "tso c'hi," and "tiao hsiang"—round ware (cups, bowls, saucers, and plates), irregular rounds (teapots, vases, etc.), and irregulars (statues, trees, etc.). The factories are likewise classified according to the shape of the ware they manufacture.



A POTTER AND HIS UNFINISHED WARE

Almost large enough to have served as the jars in which Ali Baba's Forty Thieves concealed themselves! Those jars of "Arabian Nights" fame might have been made in Ching-teh-chen, for China's ancient porcelain center was manufacturing such wares as early as 220 A. D.

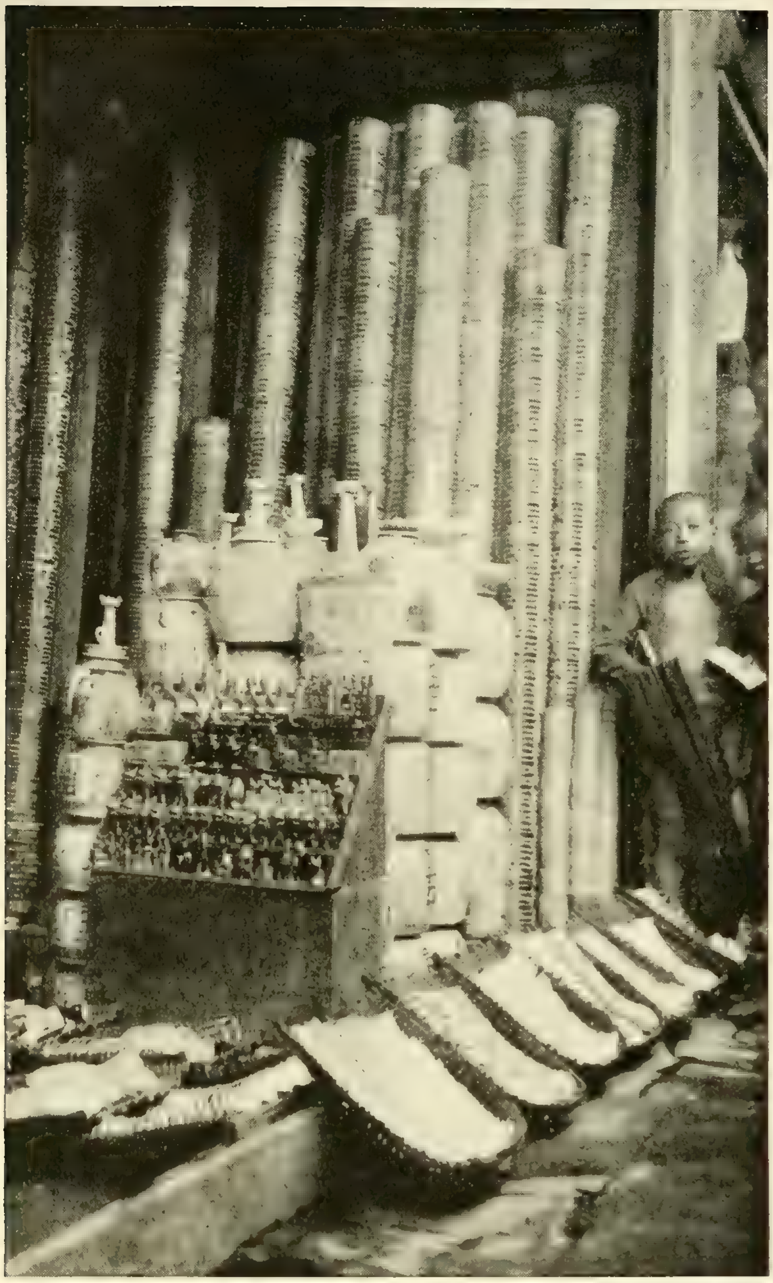
Two very descriptive words are used by the Chinese in referring to the composition of porcelain—"c'hi ku," or porcelain bone, and "c'hi ro," or porcelain flesh. The former gives strength and brittleness to a vase or bowl, while the latter adds resiliency and toughness. Unless these clays are mixed in the right proportions, the vessels will either sag or crack when placed in the furnace.

Technically, the "bone" clay is kaolin, or China clay. It is an infusible substance derived from decomposed feldspar or granite. The "flesh" clay is a white, fusible material formed from a mixture of feldspar and quartz.

HOW THE POTTER'S WHEEL IS OPERATED

All of these clays are hauled to Ching-teh-chen in the form of soft, white bricks by small, flat-bottomed boats. Thousands of Chinese boatmen are engaged in this work.

After the clays are thoroughly cleansed,



CHEAP PORCELAIN PILED HIGH ALONG PORCELAIN STREET

sifted, and refined they are kneaded together in varying proportions, usually by a bare-footed boy, until they are ready for the potter. The wet lump of clay is then placed on the knob of the potter's wheel (see page 397).

The potter's wheel, which was invented by the Chinese, is a huge circular machine, about four feet in diameter, made of heavy timbers to lend it momentum. It rests on a perpendicular axis in a slight depression, or pit, into which water and debris rapidly drain.

The potter is perched above the wheel, with one foot on either side, in order to allow sufficient space for the movement of his hands. After revolving the wheel swiftly with a short pole, he deftly and with mechanical precision fashions a plate, bowl, or vase. After years of practice he can estimate to within a hair's breadth the proper size.

The piece is then removed and placed on a long tray in front of the potter, where it awaits the next artisan. Handles and other decorations, made in molds, are added, and then the whole is scraped smooth and allowed to dry until it is ready for the next process—the under-glaze decoration.

Several basic colors, like blue and red, can be painted on under the glaze. The glaze is next applied in various ways—by dipping, by blowing on with a tube, or by sprinkling. After the mark has been added the piece is ready for the furnace.

STRAW AND WOOD SCARCE; COAL NOT SUITED FOR KILNS

Porcelain placed in the kiln to be fired has to be protected in strong, cylindrical clay vessels, called saggers. These trays can be used from three to six times before they are ready for the scrap heap on the river bank. Every piece of porcelain, as it is set into the sagger, is placed on a small, round, clay chip, sprinkled with straw ashes. This prevents the fusing together of the two pieces.

The fuel for the furnaces at Ching-teh-chen is of two kinds—straw and wood. Coal has been tried, but it was found that its fumes discolored the porcelain, and accordingly its use was discontinued. Straw is used to burn only the coarser ware.

The fuel problem is a very acute one and it is only with greatest difficulty that wood can be secured at all. The neighboring hills have long ago been deforested, and firewood must be transported to Ching-teh-chen in river boats, often from sources 200 or 300 miles distant. Boats piled high with straw, projecting over the sides almost to the capsizing point, are common sights all along the river. Wood-boats, too, are seen everywhere.

The kilns are large, egg-shaped ovens of brownish brick, fifty feet long and twelve feet high at the highest point. Because of the intense heat, both the kilns and chimneys must be rebuilt annually.

Every piece of porcelain is placed in the furnace with great precision and arranged according to the temperature which is necessary for its complete firing. Only certain pieces can be placed at the top of the kiln.

The furnace when full is entirely bricked up, and the whole contents are kept at a temperature of 1,600 to 2,000 degrees centigrade, usually for a night and a day, after which the kiln is allowed to cool off, and in due time the porcelain is removed. It has been found that one kiln is large enough to keep nine or ten factories in operation.

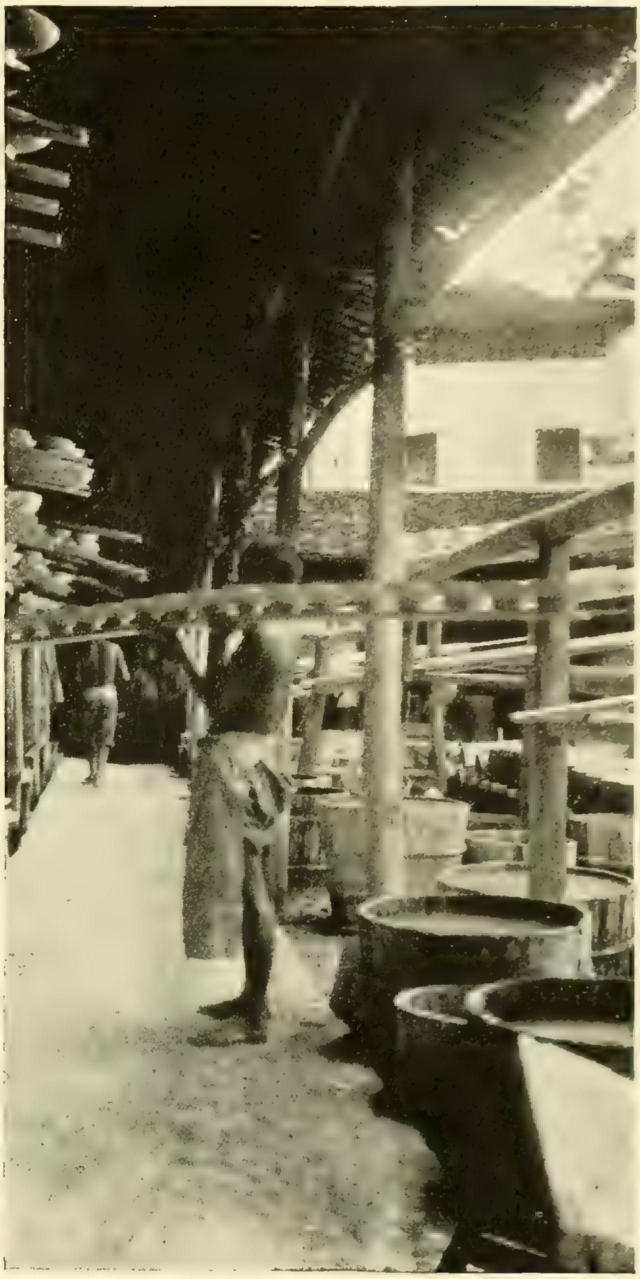
This completes the process if no decorations other than the under-glaze paintings are desired, but if more elaborate colorings are used, further burnings in a smaller kiln take place. In applying other ornamental designs the artist often spends weeks, or even months, in completing a single piece, as was the case with a beautiful vase portraying the five relationships, which we had the pleasure of inspecting in the leading factory in the city.

PORCELAIN IS CLASSIFIED ACCORDING TO SHAPE

We found porcelain to be classified, according to shape, as follows: "yuan c'hi," or round ware, which includes cups, bowls, saucers, and plates; "tso c'hi," or irregular rounds, including teapots, vases, and small, flat ink and paint boxes; "tiao hsiang," or irregulars, such as images, statues, representations of trees and other objects.

An interesting feature of the manufacturing process is that the factories are also classified according to the shape of the piece they produce—that is, Mr. Wang makes only round ware, or he may even confine himself to the manufacture of bowls, while Mr. Li's factory is devoted entirely to the production of teapots.

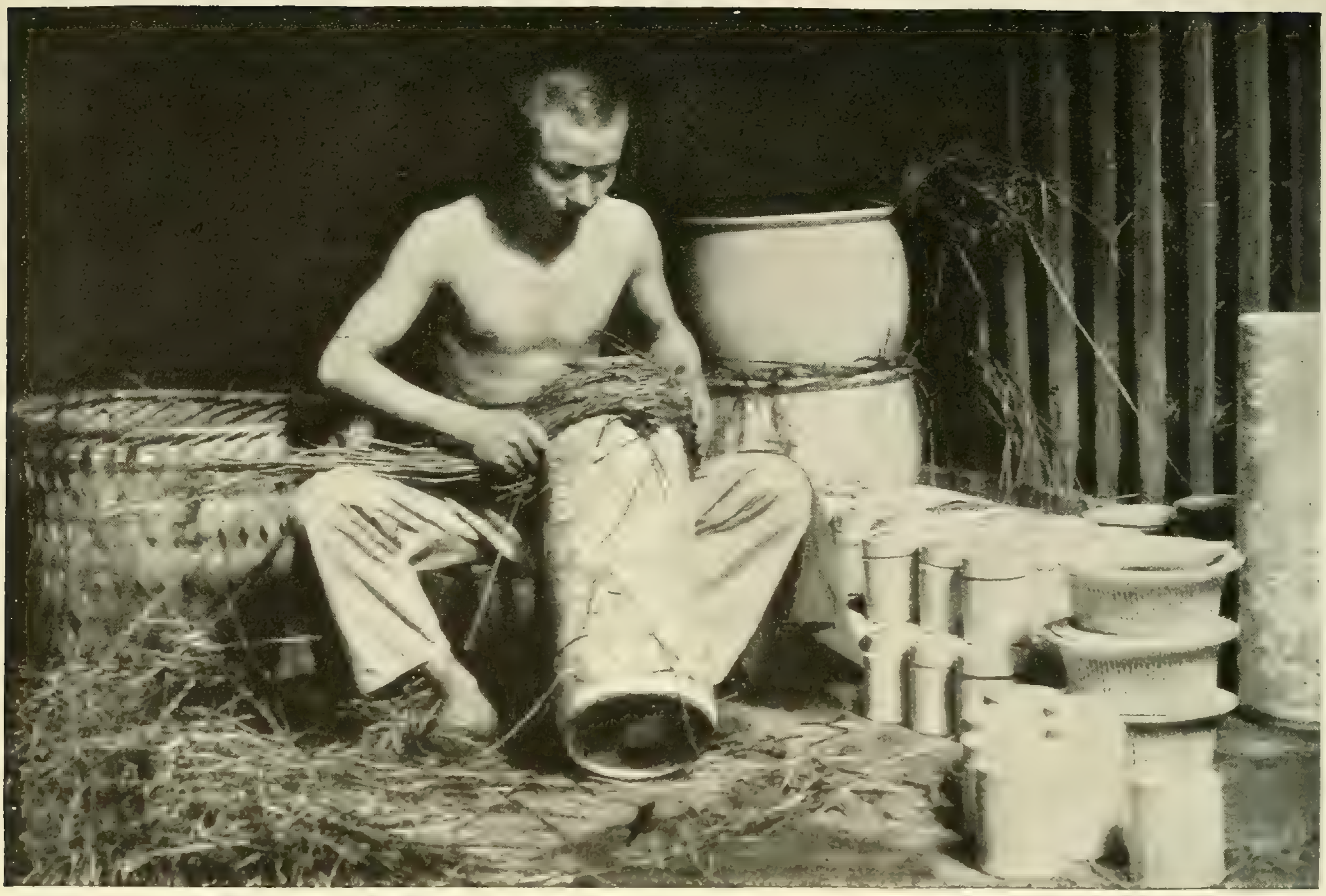
Clustered around the Fukien Guild Hall, in the eastern part of the city, for example, we found about twenty Fukienese families devoting their entire time to the making of images and statues, such as the God of War, Goddess of Mercy, the Three Stars—Happiness, Longevity, and Posterity—and the Gods of Harmony. Among the collection we also noticed some obscene pieces.



THE WAY IN WHICH PORCELAIN IS MOVED FROM PLACE TO PLACE

The job of porter in a Ching-teh-chen factory would be hazardous for one not blessed with a steady arm, but the percentage of breakage is small.

There is only one plant in Ching-teh-chen which produces all varieties of porcelain and pottery—the Kiangsi Porcelain Company. It was organized several years ago by a number of prominent stockholders on a modern basis. No foreigners are connected with it in any



PACKING PORCELAIN IN RICE STRAW TO BE SHIPPED TO AMERICA

The firm exporting the largest quantity of porcelain and pottery from Ching-teh-chen is a New York concern. Each piece is carefully packed by hand in rice straw before being packed in large boxes.

capacity. We hear a good deal these days about the inability of Chinese to run their own business firms, but the success of this company, which received the grand prize for the best exhibition of porcelain at the Panama Pacific International Exposition in 1915, seems to indicate that they have some business capacity.

THE IMPERIAL POTTERY'S LONG AND NOBLE HISTORY

Among the four hundred male employees of this concern are one hundred formerly engaged by the Imperial Pottery. In fact, with the downfall of the Ching Dynasty in 1911, the Kiangsi Porcelain Company took over practically the entire plant of the famous old factory.

The Imperial Pottery had a long and noble history. It was established in the Sung Dynasty, which lasted from 960 to 1279 A. D. The emperor Chiu Tsung, who founded the dynasty, established the manufactory at Ching-teh-chen, and down through the centuries each succeeding emperor gave it his support and encouragement. It is reported that it was a part of Yuan Shih K'ai's imperial plans to reopen the pottery on his ascendancy to the throne. This is but one of the would-be emperor's dreams that was cut short by his sudden death.

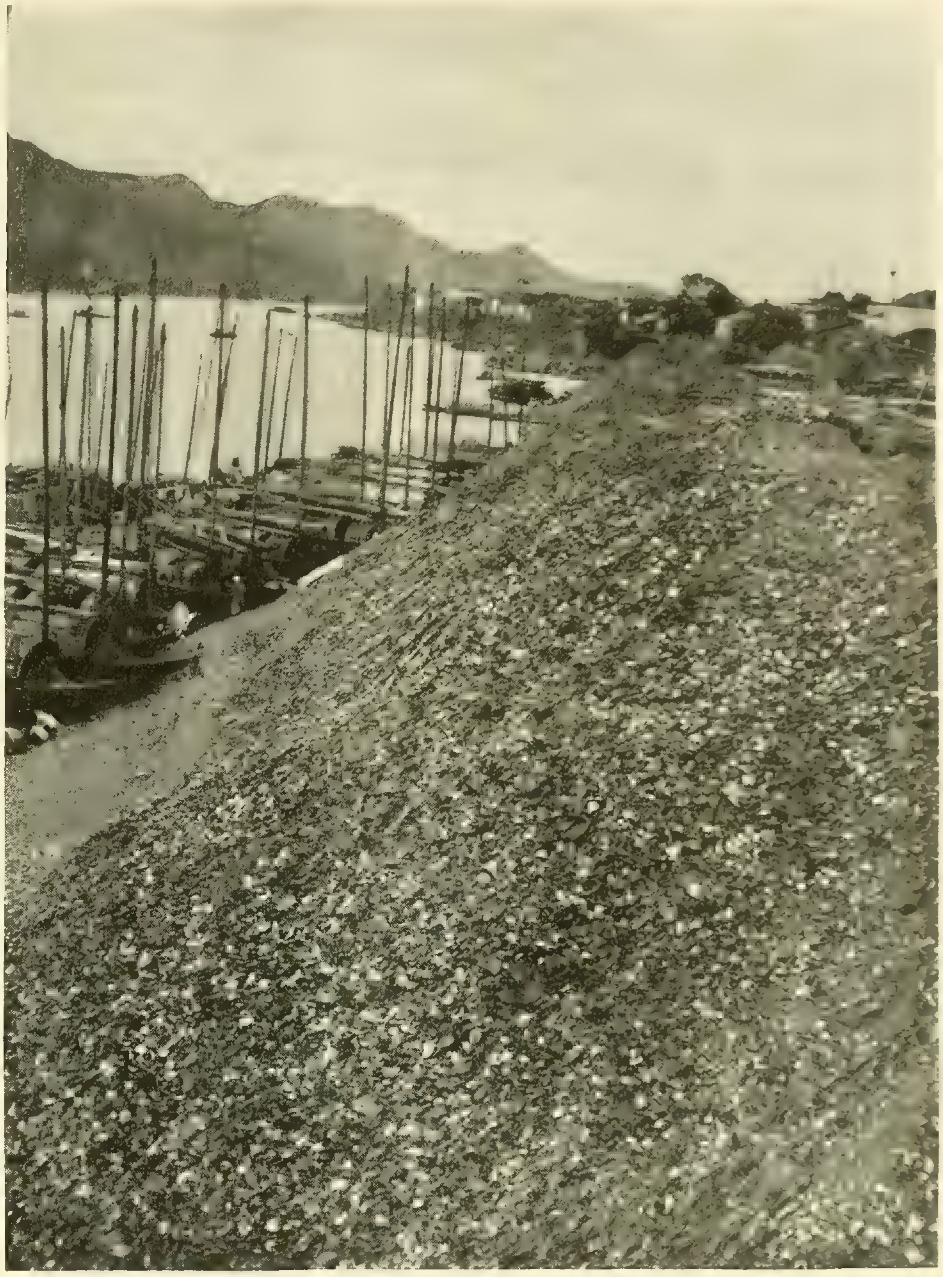
Although the empire no longer exists, porcelain is still used in large quantities by officials in Peking. It was my pleasure on several occasions to meet at feasts President Hsu Hsi Chang's representative, who had been in Ching-teh-chen for several months purchasing special wares to be used as gifts in the capital. We visited the factory which filled his orders and saw there dozens of vases, in every stage of development, later to be presented to foreign ambassadors and Mongol princes.

NO UNEMPLOYMENT IN THE PORCELAIN CITY

There is no unemployment in Ching-teh-chen. Work is plentiful, but industrial conditions are bad. Long hours, poor food, no rest days, and unsanitary living conditions cause a great deal of dissatisfaction among the laborers.

Workers are organized, first according to the parts of the country from which they come — Ching-teh-chen, from Anhwei and all other provinces. They are further formed into guilds, according to the kind of work upon which they are engaged. Strikes are not infrequent, but there is seldom resort to violence. The Chamber of Commerce is a regular mediator.

Many women are engaged in various forms of porcelain production, such as painting, engraving, and lettering. The apprentice system prevails throughout the industry, as in every trade in China. It was interesting to note the artistic ability of a number of small boys engaged in painting birds, flowers, fish, and bats, the last being an omen of good fortune.



THE POTTERS' MISTAKES

Great mounds of chipped and defective porcelain and broken dishes are piled high along the river bank at Ching-teh-chen.

Wages range from ten cents to one dollar per day, Mexican, for potters and molders. This includes food and room. The artist's wage ranges from twelve cents to three dollars per day, varying not according to the number of hours, but according to the number and quality of the pieces produced. But no artisan must work too long. If a man is found doing too much and working beyond the time limit, he is set upon by his fellow-workers and severely beaten.

We learned from the revenue collector that about $5,000,000 worth of porcelain and pottery is shipped out of Ching-teh-chen every year. Every piece has to be hauled down the river in small boats to Raochow, whence it is reshipped in large junks to Shanghai and other cities. Most of this is for domestic use, the Chinese not yet having learned the value of stimulating international trade.

"LING LUNG," OR RICE, PATTERN DISHES REQUIRE MUCH TIME AND SKILL

Perhaps the most popular design of porcelain with foreigners is the "ling lung," or rice, pattern found in dishes, cups, and bowls. The Chinese have learned the art of producing foreign-style dinner sets in this pattern and are finding a ready market for them.

Patient skill and no small amount of time are required for the making of the rice pattern. The wet clay is first formed into a crude cup or plate on the potter's wheel. After the piece has dried for several hours or for a day, it is carefully scraped with a special kind of knife which conforms to the curvature of the vessel. The next step is to cut in the kernel-shaped holes. This is done by a skilled workman, who uses a small, flexible steel lancet.

I had always thought that the rice pattern was made by pressing kernels of rice into the damp clay. It was not until I saw the actual process that this erroneous impression was corrected. After these small apertures have been completed the vessel is ready for the under-glaze painting. Decorating finished, the next step is to apply the glazing fluid. This is a thin, milky substance of high-grade porcelain. Sometimes the bowl is dipped, but the cold, raw liquid is usually put on with a soft wool brush.

The operation is repeated about thirty times, with an interval for drying, until all the holes are filled. Five or six coatings only can be applied in one day. The piece is then fired in the usual manner, and comes out of the furnace with the filled holes standing out in beautiful translucent designs.

The firm exporting the largest quantity of porcelain from Ching-teh-chen is a Chinese company in New York City. Each piece is carefully packed by hand in rice straw before it is packed in large boxes. These foreign boxes are made in Ching-teh-chen, and after being marked both in Chinese and English are shipped directly to New York.

CHING-TEH-CHEN HAS A BIG FUTURE

The outstanding impression which a Westerner carries away from this teeming industrial city is the primitiveness of the methods in use. In not a single shop or factory does one find modern machines. Not even the simplest mechanical devices for operating a series of wheels by means of belts are to be found. Every piece of porcelain is turned out by hand—or by foot.

Yet it is astonishing how much these patient workmen produce with their obsolete methods and crude devices. New ideas penetrate interior China slowly, but with the opening of the Nanking-Nanchang Railway, which has been planned and surveyed, Ching-teh-chen will assume a position of commercial influence that will astonish the world. The enormous clay deposits, together with the quantity of cheap labor, touched by the magic hand of a twentieth-century artist-engineer, will push this old and interesting city into a position that will far outshine her ancient glory.

"THE MAN IN THE STREET" IN CHINA

Some Characteristics of the Greatest Undeveloped Market in the World of Today

By Guy Magee, Jr.

CHINA offers today more allurements, both to the legitimate promoter and to the professional exploiter, than any other quarter of the globe. With four hundred million people, a market of tremendous potentiality already established; cheap, intelligent labor abundant; money worshiped, and a national spirit yet lacking—what could present a more inviting field for enterprise?

So much misinformation, or rather lack of information, is extant in regard to the every-day characteristics of this great people that the present seems opportune to acquaint ourselves with the "man in the street." In numbers he is second only to the agricultural class; in importance as a market for immediate foreign development he stands first.

In forming our opinions of things Oriental, either from a cultural or a

Photograph International Film Service

A CHINESE TOY MERCHANT PEDDLING HIS WARES IN THE STREET

Toys of the same sort that delight youngsters of the Western World gladden the hearts of Chinese children. In the bazaars of Peking the shopper finds flutes and drums, tops, diminutive sets of furniture and dishes for dolls, jointed bamboo dragons, tufted camels, and gaudy tigers of painted canvas stuffed with sawdust (see "The City of the Unexpected," page 349).

commercial point of view, care should be taken in the selection of an informant.

THEY DO NOT "ALL LOOK ALIKE"

Beware of the much-traveled acquaintance who, upon being asked what the Chinese or Japanese look like at home, tells us that "they all look alike" to him. His information does not extend beyond the resident foreigners, hotels, and steamers concerning which he always is ready to deluge us with a description applicable to any part of the globe.

A real man of affairs returning from the Orient would not refer to the Chinese or Japanese as "all looking alike" to him; he knows better; also, it is not politic. The Orientals resent having this phrase applied to them, feeling it more as a cultural than as a physical slight, an insult to their civilization and its antiquity, of which they are justly proud.

Photograph by Guy Magee, Jr.

THE MAN IN THE STREET IN CHINA IS APT TO BE A GENIAL INDIVIDUAL, IF PROPERLY APPROACHED

These men are employees of the Shanghai-Nanking Railroad, and their work has brought them in contact with foreigners, so they are no longer shy in the presence of Western travelers.

Furthermore, because of their diverse occupations and intellectual attainments, they feel themselves differentiated from one another; hence the added offense in grouping them at random.

Our Oriental friends, particularly the Chinese, have a physical and cultural individuality comparable with that of any other nation, albeit developed under a different civilization.

FOUR DISTINCT TYPES OF CHINESE

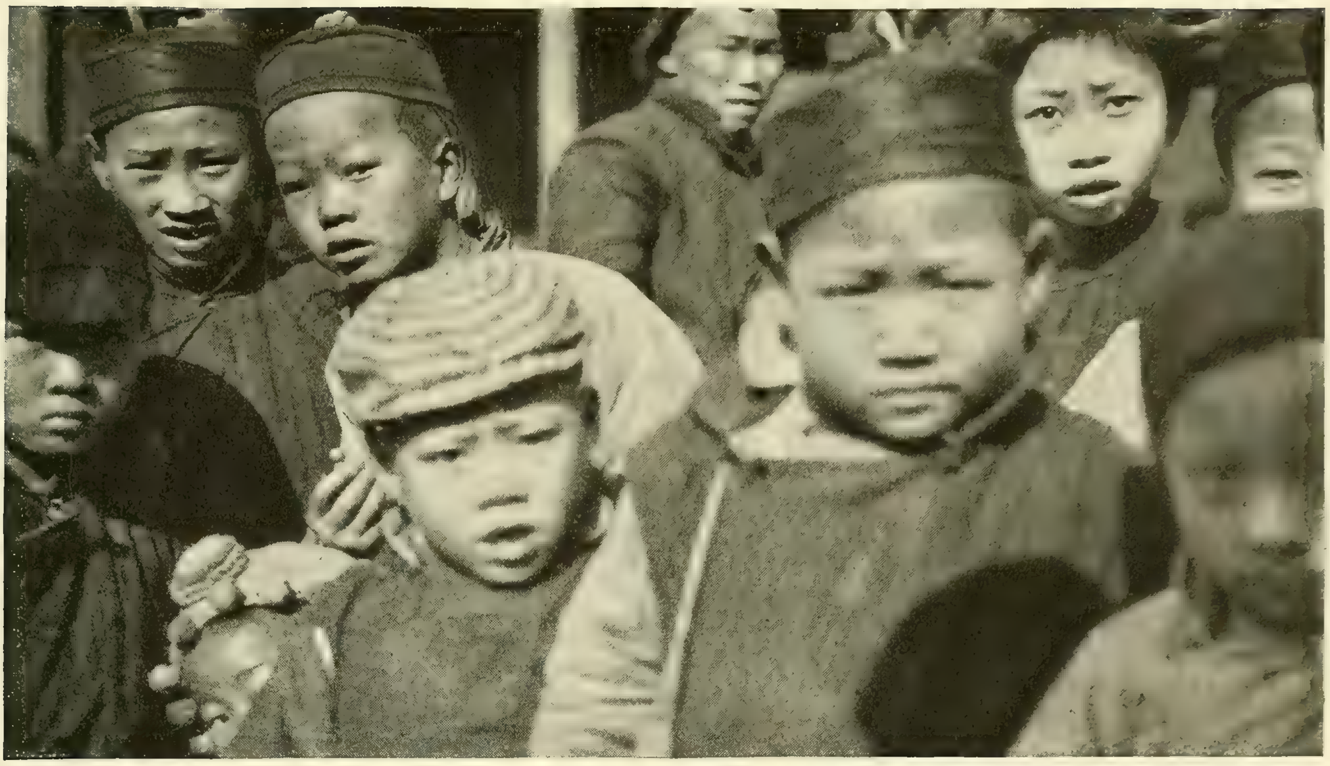
In China the variations of type from north to south are so marked that they might be likened to well-defined strata in a sedimentary geological formation having a slight disturbance in the central layers, the disturbance representing a social upheaval in the Yangtze Valley. Upon close examination each stratum resolves itself into numerous less clearly defined secondary strata; in like manner the east and west racial belts are made up of numerous weakly defined groups.

In coastal or mid-China, omitting the west or highlands, the following four distinct types or strata stand out between Manchuria on the north and Cochin China on the south, or very roughly between Peking and Hongkong:

1. North of the Yellow River the Manchus predominate. They are a tall, large-boned, stolid type, with a dull facial expression.

2. South of the Yellow River, but within its basin, there has been sufficient admixture of the original Chinese element to modify somewhat the Manchu characteristics. This type is not so tall, large-boned, or stolid as its northern neighbor. The features are more expressive and the vision is keener.

3. South of the Yellow River basin is the Yangtze Valley, which up to the middle of the nineteenth century contained a type, a distinct mean between the northern Manchu and the southern Chinese. The social upheaval caused by the Taipings unstabilized the existing blend and a new one is being evolved, medium in stature and inclining to the south in facial characteristics.



Photograph by Guy Magee, Jr.

HERE THE PHOTOGRAPHER HAS CAPITALIZED THE NATIVE CURIOSITY OF CHILDREN, WHICH OUTWEIGHS INSTINCTIVE DISLIKE FOR THE FOREIGNER

The fat boy in the foreground is the son of a well-to-do tradesman of the Yangtze Valley. The features of the boy wearing the foreign cap are suggestive of the southern type. The child to the right and rear of the fat boy is a slave girl (see text, page 415).

4. South of the Yangtze Valley are the native Chinese, as distinguished from the Manchu or mixed races, culminating in their marked characteristics in the Cantonese. They have a slight, rather graceful stature, intelligent and mobile features, quick perception, and a profound contempt for the foreigner.

THE YANGTZE VALLEY CHINESE ARE BEST KNOWN TO TRAVELERS

The type occupying the Yangtze Valley is the largest, the most accessible, and probably the best known to the foreigner. In this large group there is far less homogeneity than in any one of the other three, and, generally speaking, this rather curious fact may be traced to two entirely different causes—one natural, the other artificial.

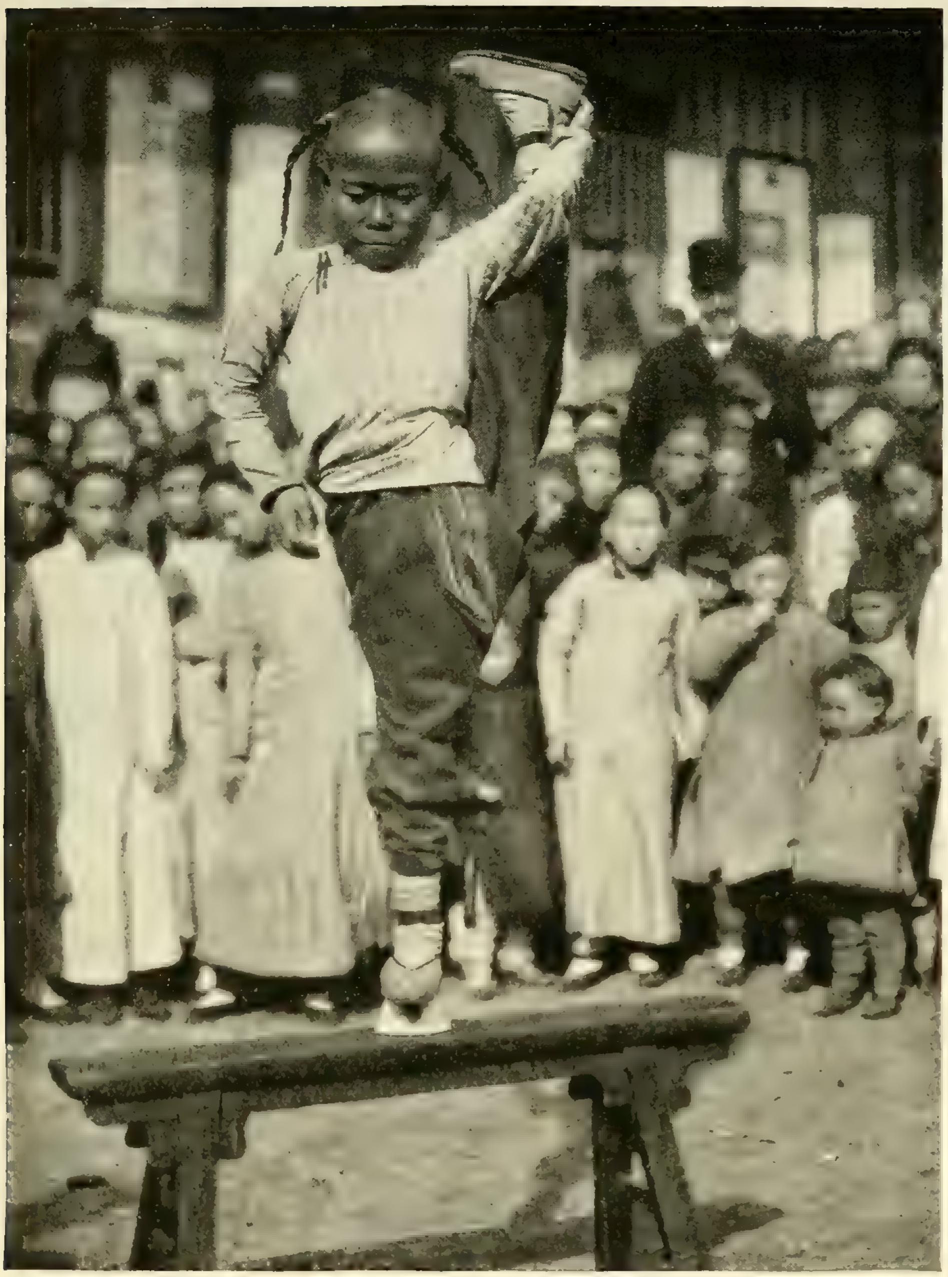
The natural cause is the intermarriage for nearly 400 years of the northern, or Manchu, type with the southern, or Chinese. The artificial cause is the great Taiping Rebellion; it was of far-reaching effect, and is more noticeable in its traces today, although only seventy years have passed, than the earlier intermingling of Manchus and Chinese.

The extent of the social upheaval caused by the Taipings may be partially grasped when it is considered that the best historians, native as well as foreign, concede that, fire and famine assisting, more than forty million people perished in the rebellion.

To remove any doubt regarding these figures one has only to visit some of the larger native cities—Soochow, Nanking, and Hang-chau, for example—and see the large intramural areas to this day razed and unpopulated; then consider that the same devastation extends hundreds of miles along the broad sweep of the valley, and that millions of the slain were replaced by the invaders.

In general, the march of the rebels was from west to east down the valley of the Yangtze, dispersing myriads of families and thousands of communities; some of the people fled north, some south, and some in the van of the invasion.

Upon reaching the sea, progress was checked; pursuers and pursued recoiled upon each other in a great struggling mass. A retrograde movement to the west set in, but, lacking organization and objective, it soon spent itself.



Photograph by Guy Magee, Jr.

THE YOUTHFUL ACROBAT ALWAYS ATTRACTS A GROUP OF INTERESTED SPECTATORS WHEN HE GIVES HIS OUTDOOR PERFORMANCE IN A CHINESE CITY

The agile entertainer works with an extremely simple outfit—a trestle, a tea-cup, and a peg for his jacket. Here he has chosen the station platform for his stage and the hour of his performance is just before train time, when the crowd cannot melt away as the "hat is passed."

As motion ceased, the flotsam and jetsam settled in its tracks and intermarried not only with its own, but also with the remnants of its precursors, the aforementioned admixture of north and south. Manchu conqueror and conquered Chinese.

Today the inhabitants of the lower reaches of the Yangtze basin are largely an average of all the former types between Siberia and Cochin China and east of the Himalayas. Strange to say, this complex blend of several widely differing components does not vary greatly from the type of the days before the rebellion.

THE TYPICAL "MAN IN THE STREET"

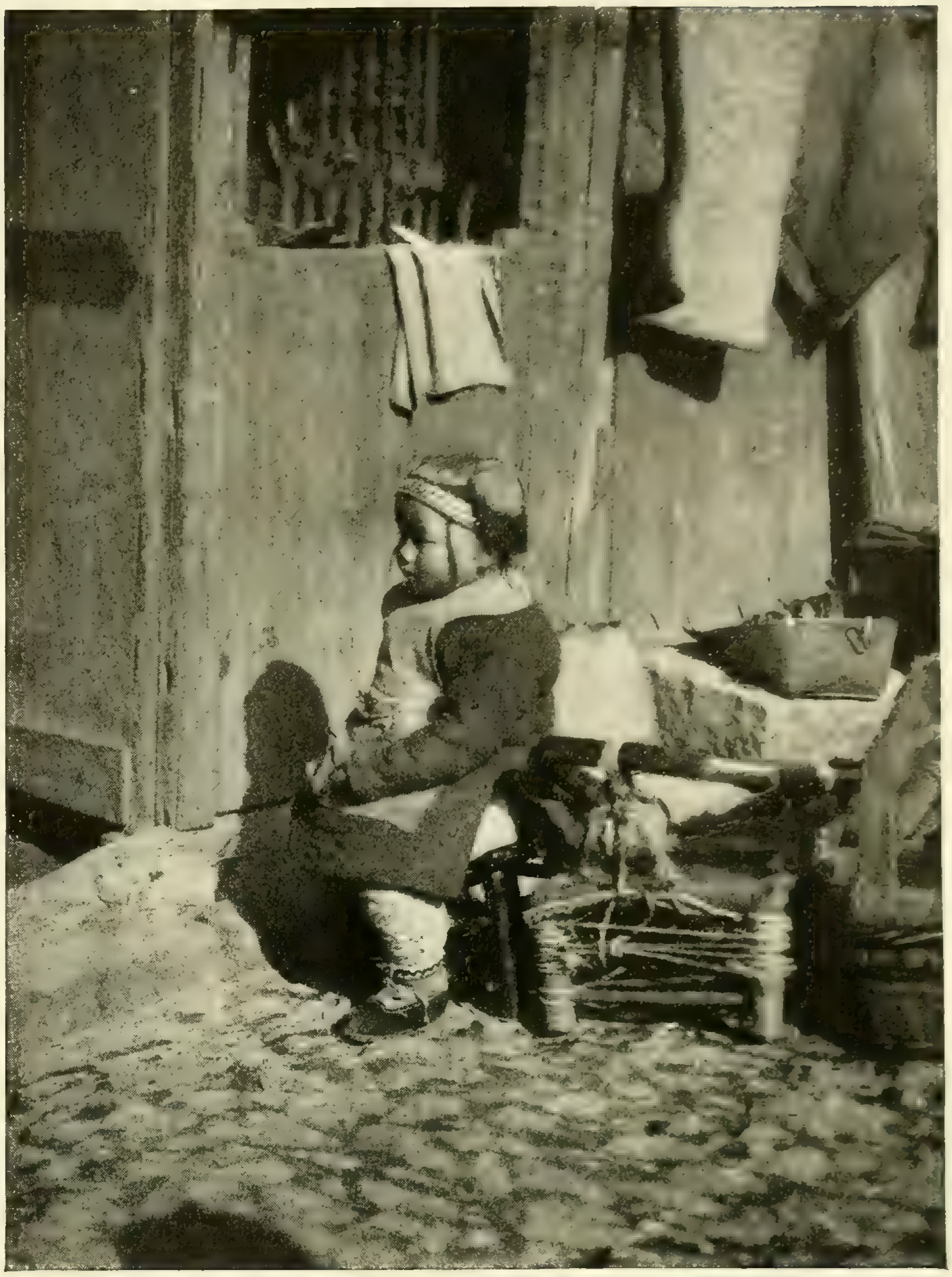
The accompanying illustrations are typical of "the man in the street" of the larger cities in the Yangtze Valley.

Adult Chinese, particularly women, are shy and superstitious, and greatly resent being photographed; even a liberal "cumshaw" often fails to secure the good will of a desirable study. Happily, where money fails strategy sometimes succeeds. By facing at right angles to the objective, suspicion is allayed, and in the case of a folding camera, location in the finder is no more difficult. Several of the photographs reproduced in this article were so taken; for example, that on page 409, in which the children are staring straight into the camera while being photographed unwittingly.

The illustration on page 408, from a photograph taken near Soochow, the provincial capital, some eighty miles from Shanghai, shows two employees of the Shanghai-Nanking Railroad. This picture is included as evidence that our Chinese neighbors can laugh and even appear genial, contrary to the reports of some returned travelers and in spite of the fact that the other views fail to bring this out. The reason is not far to seek: the railway hands are accustomed to the foreigner and his ways; the others are not.

Lack of self-consciousness is a Chinese characteristic. And yet this statement is relative. The upbringing of the Oriental and that of his neighbors is identical and has been standardized for centuries. Consequently in his own familiar environment from day to day there is nothing to startle him; all that life has to offer he has experienced. But were he forced unexpectedly to don Western clothes, including morning coat and silk hat, and set about his duties, his discomfiture would be just as great as would be ours attending to our affairs in coolie garb.

Changing social conditions sometimes catch us unawares. In the Orient such an occurrence heretofore has been unknown. In peering below the surface it is seen that generalizations between Orient and Occident are mostly superficial, and the differences, being more apparent than real, disappear with fuller understanding of the East. It is a truism that "human nature is much the same the world over."



Photograph by Guy Magee, Jr.

"WHERE THE PARENTS CAN AFFORD IT, CHINESE CHILDREN ARE WELL NURTURED"

THE CHINESE ARE BOULEVARDIERS

In large measure the Chinese are as much boulevardiers as the Parisians; in fact, they outvie the Parisians by having their entire meal in full view of the passing crowds. Of the faces turned our way in the illustration on page 420 even the most casual tourist would hardly term them so deficient in individuality as to "all look alike" to him.

The stolidness of these several expressions would suggest a Manchu strain; the physiques suggest the racial mixture of the Yangtze Valley. The apparel is not different from that of clerks and coolies employed in small shops.

Notice the frowns here as compared with the smiles of our railroad employees. "The intrusion is resented, but being powerless to prevent it, we will, with bad grace, submit"; so we interpret the thought behind the expressions in this and in several other illustrations—ungracious but not dangerous, the ill will of unfamiliarity.

Of the two coolies shown in the illustration on page 412 the one to the right,

Photographs by Guy Magee, Jr.

THE STRAPS OVER THE SHOULDERS OF THESE STURDY MEN PROCLAIM THEIR OCCUPATION—WHEELBARROW COOLIES

The careless or unskillful not infrequently sustain painful bruises and broken ribs when their heavily laden vehicles capsize (see text, page 413) The brawn of the wheelbarrow coolie has reduced the cost of moving package freight to an unheard-of minimum, and thereby contributed largely to the prosperity of the treaty ports.

HE TELLS YOUR FORTUNE, BUT HE IS THINKING MORE OF HIS FEE THAN OF THINGS OCCULT

The soothsayer is a popular "institution" in China. His services are invoked to set propitious days for weddings, funerals, and burials. In this land of contradictions, the funeral and the burial seldom, if ever, take place together, and the soothsayer is the individual who causes and profits by the delay (see text, page 417).

in his well-worn attire, is remotely suggestive of a pre-war Macedonian brigand. His companion has struck an attitude, particularly with the limbs, which would not be without grace were the lines more evident. However, being of a practical rather than of an esthetic turn of mind, he prefers his nether parts to be draped—in winter.

The occupations of the two men are indicated by the woven straps terminating in loops passing around the neck; they are wheelbarrow coolies, and daily perform feats of strength, endurance, and clever balancing to imitate which it would take a Westerner months, even years, to learn.

Pushing a wheelbarrow in China is a dangerous occupation, many a broken rib and back resulting therefrom. This is so contrary to our own experience that to understand it we must have a conception of how a native wheelbarrow is constructed and handled, a high degree of specialization being involved in each.

The construction is somewhat as follows: the wheel, nearly a yard in diameter, is shod with a heavy, grooved tire to prevent skidding, an ever-present danger, and is placed centrally between two slatted platforms, each about three feet long and a foot wide, carried on a framework some inches above the axle. Part of the frame extends beyond the platform, ending in two strong handles; below is the usual pair of legs.

Operation of the barrow is somewhat complicated. Assume a load of cotton, one most difficult to manage. Two bales, *half a ton,* are securely roped onto the parallel platform. The coolie then enters the shafts, or handles, first slipping over them the loops of his strap, which is of such length that, with his shoulders straightened, the legs of the barrow clear the ground.

The handles are grasped with *palms down,* for, remember, the shoulders carry the unbalanced load; the arms, assisted by the weight of the body, are exerted only in controlling the balance. The balance also may be accomplished by raising and lowering the shoulders and planting the feet firmly—a sort of emergency measure requiring a halt, and therefore seldom used, for every coolie knows that time out is money out.

The danger lies in having an upset, which frequently occurs through skidding; hence the heavy, grooved tire. Collisions, too, are common, as generally the coolie cannot see over his load.

When a load of baled cotton upsets it rolls over, so that the wheelbarrow takes a position upside down, and unless the coolie quickly slips out of his strap and backs clear of the handles, the latter, in revolving, will pin him to the ground, one above, one below his body, suggestive of being broken on the wheel and probably no more agreeable.

THE COOLIE WEARS OUT QUICKLY

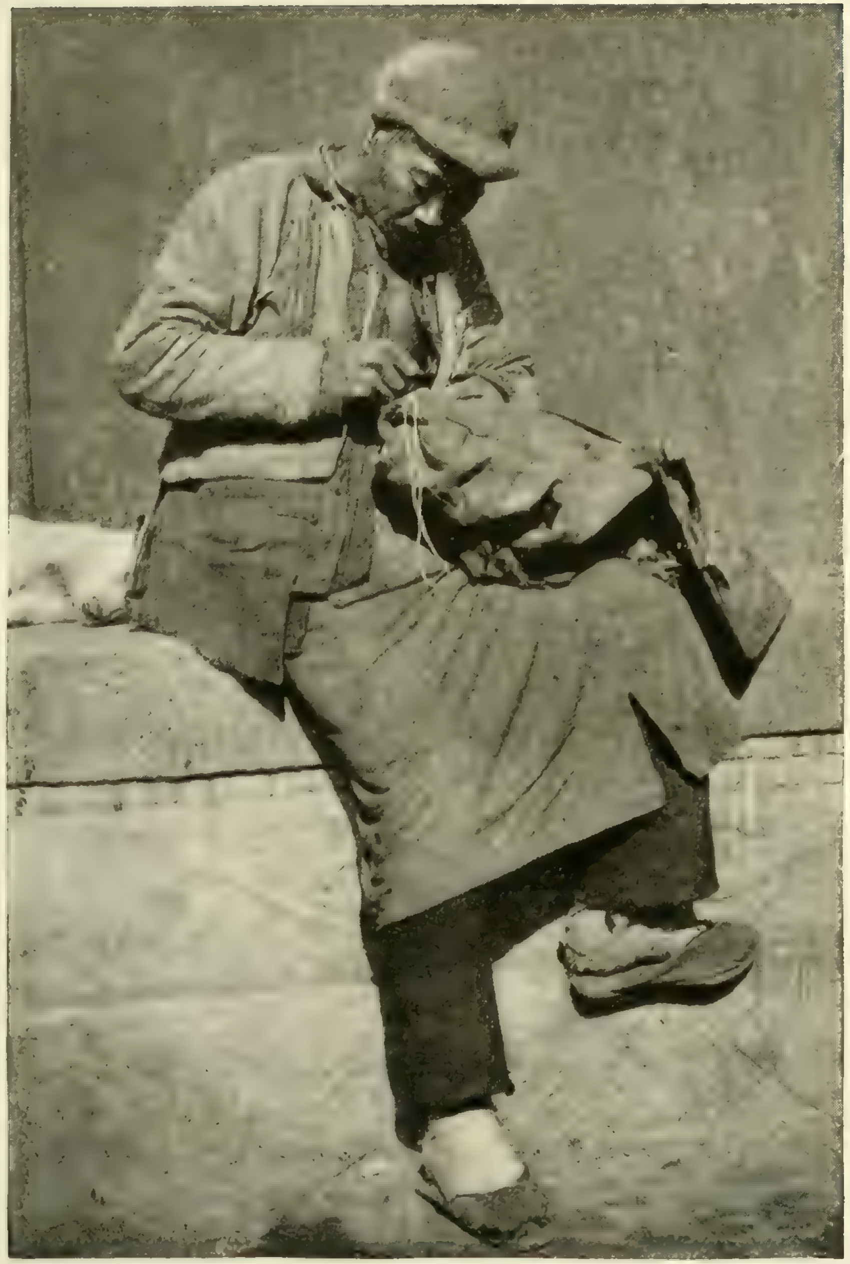
The continual physical strain while at work ages these coolies very rapidly The two shown on page 412, being comparatively young, do not reveal the effects so plainly as would their fellows, several years older. After twenty-five the wear and tear are evident.

Frequently, owing to unbalanced loading, as when only one bale is carried, the barrow must be tilted to maintain equilibrium. Five hundred pounds, balanced on one side of a wheel, shoved along amid the distractions of a narrow, crowded street—no wonder that the strain reacts on the expression!

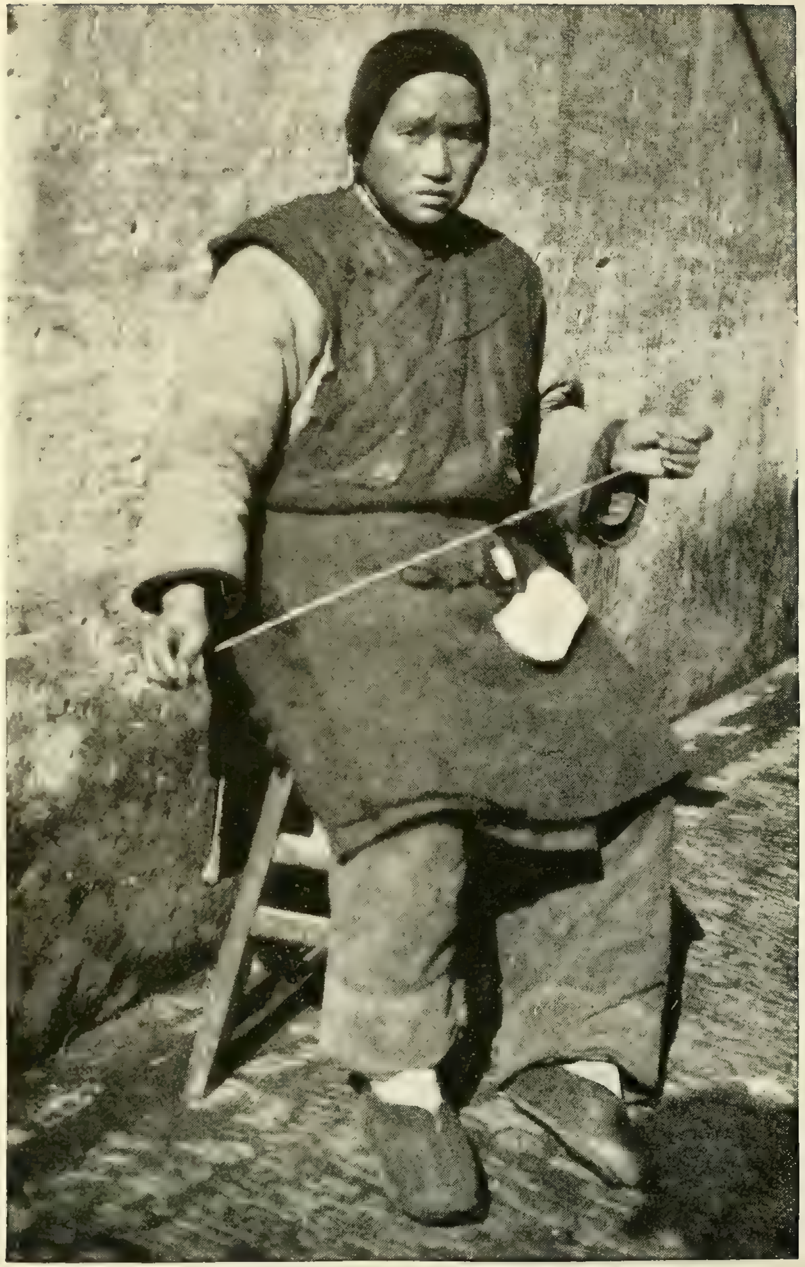
Owing to the demands of the work, wheelbarrow coolies are generally recruited from a locality near Chin Kiang, on the Yangtze River, where the people, largely of Manchu stock, suffered little dispersion in the Taiping Rebellion. They are larger and stronger, though less intelligent than their neighbors.

The wheelbarrow coolie's song has yet to be sung, though many an undeserved word of opprobrium has been hurled at him. Native and foreigner alike abuse him for blocking the traffic with his snail-like pace and enormous load, yet he looms large as an economic factor. Under certain conditions he has reduced the cost of moving package freight to an unheard-of minimum, and thereby his lowly efforts have contributed largely to the wonderful prosperity of the treaty ports and especially to that of Shanghai.

Possibly in the distant future he, with his faithful vehicle, will be remembered in bronze and stone as a pillar supporting Commerce.



A REPAIRER OF "RICKSHAW" COVERS PLYING HIS TRADE



Photographs by Guy Magee, Jr.

CAUGHT SEWING IN A SUNNY ANGLE OF HER WALL

In the illustration on page 409, accident brought together a greater variety of features than long search and studied arrangement could have done. In the child, native curiosity has outweighed the instinctive dislike for the foreigner; the photographer was so hemmed in that he scarcely had room to manipulate his camera.

A GLANCE AT THE CHILDREN

The little fat boy, with bulging cheeks and pug nose, occupying the greater part of the foreground, is typical of the sons of well-to-do tradesmen in hundreds of the Yangtze Valley cities. Where the parents can afford it, Chinese children are well nurtured. They also have a predisposition to fatness—a happy condition for the children, but provoking to the ethnologist to be baffled by a chubbiness common alike to north, south, and middle China.

Were it not for the fact that his is the most intelligent face in the group, one might hazard the guess that the fat boy's descent is largely Manchu. As "the child is father to the man," the man in his case gives promise of being large-boned and full-bodied.

The little chap to the left, wearing a foreign cap, might be a brother of the fat boy, own or half, or as the Chinese subtly put it, having in mind plural marriage, "same mother" or "same father." His features, except for the thick underlip, are more suggestive of the southern type in childhood.

The three nondescripts on the extreme left show individuality, if not character. They will serve as well as any other three to represent the "young man in the street"—household servants, clerks, coolies for light work, artisans, etc. Although receiving but scant notice, he is the backbone of his class and of prime importance to the foreigner of commerce.

The coolie in the central background is noticed only to insult him. Observe the sly, suspicious, bigoted expression of more mature years.

The face to the right and rear of the fat boy, the one standing out so distinctly and recalling the grotesque middle-ages sculptures adorning Notre Dame, is somewhat remarkable in its composition. It is typical of the so-called slave girls, and though no two of them look exactly alike, each individual has its prototype in this face—a master-key of expression, a real "yellow kid" as opposed to the cartoonist's imaginary creation of some years ago.

Probably born on a small boat, of parents with no land abode, this unfortunate, to provide room or more food for a favored son, was spared drowning only to be sold into slavery. The drawn features in one so young and the almost idiotic expression attest a childhood of want and ill treatment, an overworked and undernourished body.

Occasionally these little slaves are accorded better treatment, but, to China's disgrace, such is the exception rather than the rule. To speculate upon racial strains in a body and features so distorted by "man's inhumanity to man" is futile.

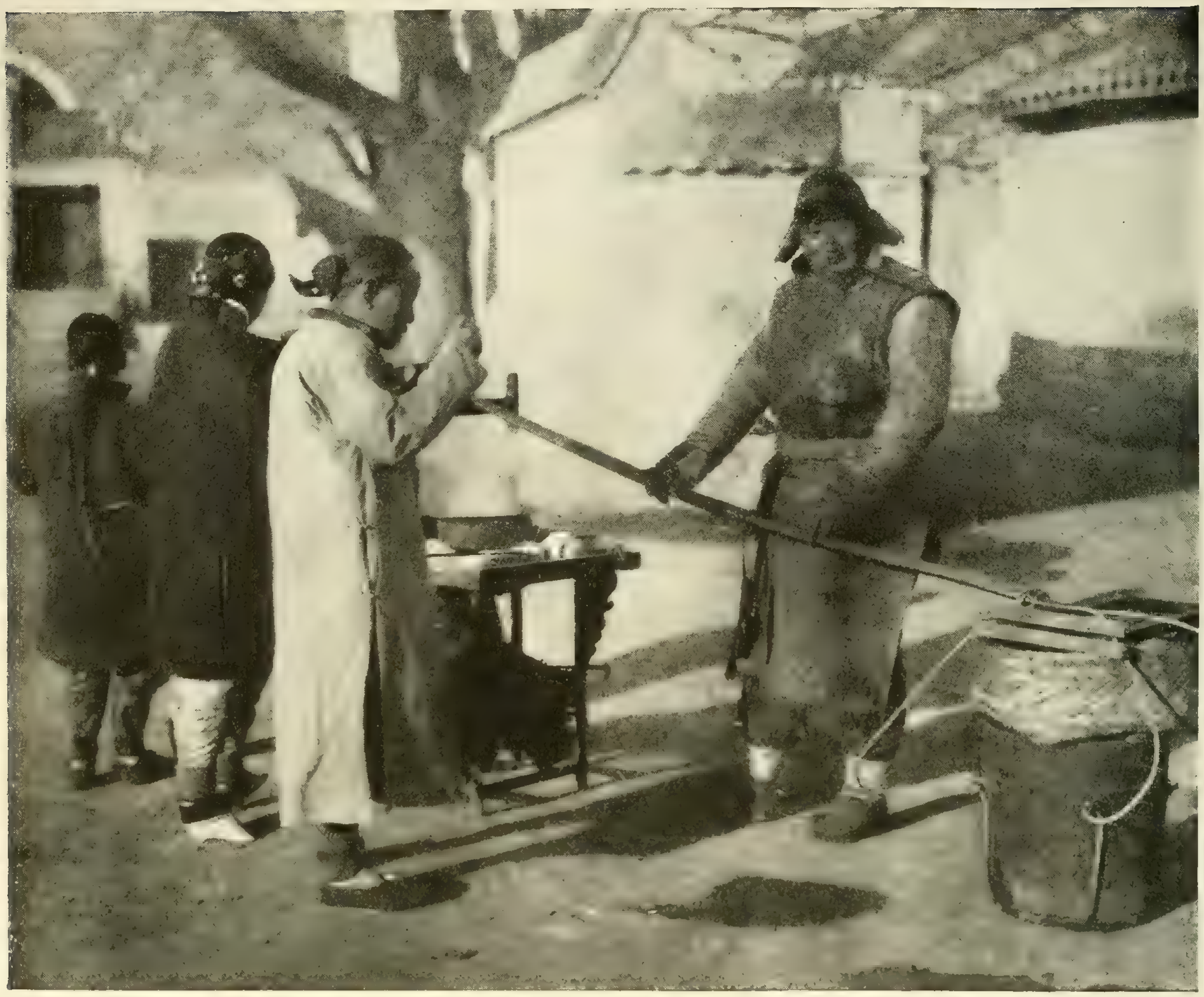
WOMEN AN ECONOMIC ENCUMBRANCE IN CHINA

The density of population in China has for centuries brought home to the people a knowledge that "survival of the fittest" is more than a theory, that it is a stern reality. In the struggle for existence the superfluous female members of the family are felt to be an encumbrance; hence it is purely from an economic point of view that girls are regarded by the lower classes with disfavor bordering on hostility.

According to the Chinese social system, a daughter and son, as family assets, have no basis of comparison; at the same time there is no animosity toward the female just because there happens to be a distinction called sex. However, it does not help the poor little slave's hard lot to know herself to be the victim of oppressive economic conditions that have warped the better nature of her persecutors.

The coarse, protruding, thick-lipped mouth so clearly shown behind the little slave girl, also evident in the latter and in the coolie in the center, seems to be a mark of privation, acquired or hereditary, frequently seen in the country where famine is current and living conditions are hard.

The accompanying drooping jaw is often associated with lack of intellect,



Photograph International Film Service

A PERAMBULATING CHINESE RESTAURANT

This restaurateur is prepared to serve a meal wherever he finds a customer. He carries his kitchen and his dining-room equipment at the ends of a long pole, which he balances on his shoulder.

and certainly country life in China offers no stimulus to the mind. Always the uppermost question is food for the morrow; if this be assured, life's ambition is satisfied.

An intellect, to grow or even to keep active, under these circumstances, would be obliged to violate the law of the conservation of energy by creating something out of nothing. That the drooping jaw is largely rural may easily be corroborated in the cities, for here it will be found that nearly all coolies so marked were country bred. As one travels northward, this feature is seen more frequently.

A NATION OF ACROBATS

Up to the arrival of the motion picture, some six years ago, the Chinese, even in the larger cities, had little in the way of really stimulating amusement. Their theater is devoted to constant repetition of classic dramas, acted and costumed in accordance with traditions and conventions centuries old, so that by contrast our small street entertainer, shown on page 410, is always sure of an audience glad to welcome a bit of novelty.

The agility, small feet, and shapely hands show a southern ancestry, although the features savor more of the mixed Yangtze type. In this case our inference may be wrong; he may be a chubby-faced Cantonese stroller far from home. At any rate, concentration on his own act, struggling with curiosity as to what the foreigner is doing, is giving him a sorry moment.

Observe the simplicity of his outfit—a trestle, a tea-cup, and a peg for his jacket. He will entertain the crowd for

Photograph by Guy Magee, Jr.

CHINESE WOMEN GREATLY RESENT BEING PHOTOGRAPHED

Girls are regarded with disfavor by the lower classes in China purely from an economic point of view. In the struggle for existence, the superfluous females of the family are felt to be an encumbrance.

twenty minutes, perhaps half an hour, and no "fool pidgin," but "straight comedy" all the time. Some vaudeville performers might well take heed.

The selection of a location would do credit to a seasoned fakir. When traveling, the Chinese are well beforehand—hence this performance before train time on the packed station platform, where the crowd, being thick and fenced in, cannot melt away when the hat is passed around. Also, on a "gala occasion" the travelers are supposed to have a little extra change and a liberal feeling withal.

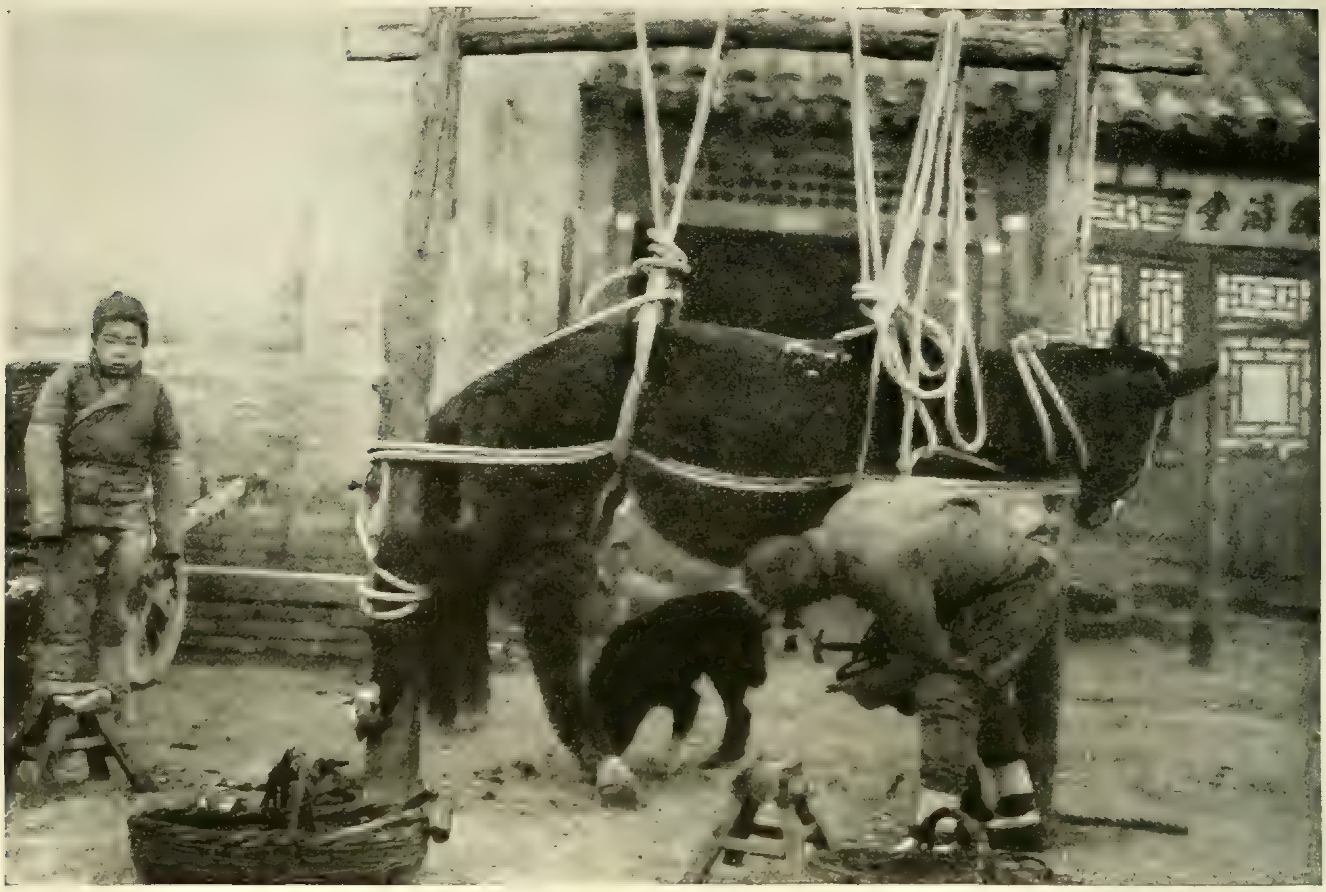
In the south especially, Chinese children are very agile, as witness their game of battledore and shuttlecock, in which the *bat* is replaced by either foot, striking the *shuttle* with the inside of the instep just below the ankle-bone. Practice makes them so adept that many returns are made without a miss.

It is games such as these, centuries old, that adapt a people to the easy mastery of acrobatic feats. Probably the reason so many vaudeville and circus acrobats are Swiss is that as a nation the people have been trained for generations in collective physical exercises.

THE HIGH COST OF DYING IN CHINA

Idle curiosity sometimes beguiles us into reading a patent-medicine advertisement, so it might lead us into having our fortune told by the old gentleman shown on page 412. However, provided we tender sound silver in return, he is not concerned with our reason for consulting him. Superstition is so ingrained in the Chinese people that its imprint appears in their faces.

Days for weddings, funerals, and burials are named by a soothsayer. In the case of burials it might frequently be worth while to employ a second diviner to report on the veracity of the first; for, until the burial finally takes place, the soothsayer makes reports, for a consideration each time, on the progress of his divinations until, the patience of the family finally becoming exhausted, a day is speedily decided upon and the body laid away, generally in a family plot in the country.



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CHINESE BLACKSMITHS TAKE NO CHANCES WHEN SHOEING HORSES: PEKING

This sling-like arrangement of ropes and knots permits the business in hand to be dispatched with greatest ease and no danger.

In this land of contradictions, the funeral and burial seldom, if ever, occur together. In the case of the average tradesman the funeral removes the body as far as the "mortuary," a large one-story building or group of buildings, on the outskirts of the city, in which space is rented for temporarily depositing the coffin until the heavens, interpreted by the diviner, indicate the advent of a suitable day for interment.

At Canton this above-ground purgatory is so crowded that there is always a "line" exposed to the weather waiting to get in. Such a city of the dead might seem unhygienic in a subtropical climate until it is considered that their big coffins permit the use of a thick cushion of lime entirely surrounding the body.

It frequently happens that when the home of the deceased is in a distant city the body may be halted several times on its way until the soothsayer in each stopping place gives the word for proceeding. What one might term the "overhead" of a well-to-do funeral is considerable.

The services of the fortune-teller are in demand to select a day for commencing a long journey or embarking upon an important financial venture,—that is, a big gamble in piece goods or oil stock, blending ancient superstition and modern high finance, and for many other occasions in the daily life of the people—so that the soothsayer, if he has tact and astuteness, need not lack a clientele.

The rather somnolent and introspective expression of our old man—a type in which southern characteristics predominate—is misleading. Instead of being bent upon mysticism, his thoughts are, in conjunction with the corner of his eye, busily engaged in figuring out what will be his "cumshaw" for posing.

THE FAMILY IS THE UNIT

It has been mentioned that the law of the "survival of the fittest" has been known to the Chinese through experience for centuries, and now and then, as one encounters a victim of its working, he is impressed by its inexorable application. In China individualism and nationalism are practically unknown; so that no pro-

Photograph by Guy Magee, Jr.

THE CHINESE BILL-POSTER KNOWS A GOOD LOCATION WHEN HE SEES IT, EVEN IF HE HAS TO UTILIZE THE REAR WALL OF A TEMPLE

vision is made by one person for the succor of another. The family is the unit, founded on the principle of mutual assistance.

With such a social system in a land where the struggle for existence is severe, an individual mentally or physically defective to any degree is handicapped at the outset. Sweep away his family, as not infrequently happens overnight, by flood, epidemic, or famine on land, or through storm among the boat population, and his sole salvation is to become deranged. In the picture on page 421 is shown such an unfortunate—a lone piece of humanity, devoid of kith and kin, and unfitted, though by no act of his own, to compete on even terms with the more efficient.

Physical suffering as well as mental anguish have held sway until the mind could no longer stand the strain; all is written on the features; the attitude and expression show entire insensibility to his present lot; in so far he is fortunate. He is even excluded from fraternizing with the professional beggars, who maintain a highly organized guild.

Though prevalent in every city, our derelict fortunately is typical of a class few in numbers in each. The condition of the male is pitiful—too pitiful to invite reflection upon the condition of the female. His misfortune is common to both north and south, Manchu and Chinese, and all crosses and mixtures.

TWO CLASSES OF OCCUPATIONS—CREATIVE AND NON-CREATIVE

Many causes are responsible for China's impotence while harboring the greatest potentiality of any nation, both in man-power and in physical opportunity. These causes are not far to seek; some are self-evident.

As we have seen, the Chinese social system has many defects; its wonderful endurance, however, is due to its several good qualities. That which has to do with classifying the pursuits of man in the order of their importance to the state is theoretically sound, but too inelastic to meet modern conditions.

All occupations are divided into two classes—creative and non-creative. Other

Photograph by Guy Magee, Jr.

LIKE THE PARISIANS, THE CHINESE FREQUENTLY TAKE THEIR MEALS IN VIEW OF THE PASSING CROWDS

The stolidness of their expressions suggests a Manchu strain, while the physiques of the diners in public are indicative of the racial mixture to be found in the Yangtze Valley (see text, page 411).

things being equal, the former have decided preference over the latter.

AGRICULTURE STANDS FIRST AMONG THE CREATIVE OCCUPATIONS

First in the list of the creative group stands agriculture. Theoretically, the farmer takes precedence over all others, literati excepted. Then follow the various trades — cook, carpenter, mason, smith, etc.

On the other side are the military, actors, barbers, police, etc.

For centuries occupation, not wealth, personality, or family, determined the social position; so that the non-creative group, containing many barred from public office, even from the privilege of owning land, in time came to be despised. All who could do so sought other, more respected livelihoods; so that association with a non-creative occupation was looked upon as a sign of mental or physical inferiority.

WHY THE CHINESE POLICEMAN IS A WEAKLING

There probably was a long period in Chinese history in which ethical culture was real and guided men in their daily intercourse to such a degree that organized police were unnecessary. That day has passed, but the social system adapted to such an ideal state does not admit it; hence, to maintain law and order, to cope with evil-doers mentally and physically capable, only those mentally and physically unfit are available. In a group on the street in a treaty port it not infrequently happens that the weakest physique and the least intellectual face belongs to the policeman.

In the "closed" cities the police force is in an even more deplorable condition, being scarcely uniformed and having hardly the authority of coolies and no means of enforcing that little.

On the other hand, the Sikh policeman, frequently seen in China on the streets of the foreign concessions, is wonderfully efficient, without being brutal, in his control of the natives. The Sikh suggests efficiency nurtured on law and order; the native policeman suggests inefficiency caused by lack of legal regulation and by a defective social system. The two policemen are typical of the difference between Orient and Occident, the Sikh having had the advantage of British army training.

A nation in which the upholding of law and order is left to the most inefficient is archaic.

COMMERCIAL COMPETITION IS ALONG NATIONAL LINES

The trite saying that "commerce knows no flag" does not hold in the Orient, where foreign competition is almost along national lines. To stimulate trade, new legitimate wants should be stimulated.

Only careful study and long residence enable competent commercial agents to introduce new products. A market once gained, however, tends to perpetuate itself; so that initial expenditure is all that need be considered.

Those whose commercial acquaintance is with less industrious peoples should be reminded that there is a vast difference between these and the Chinese, in that the Chinese do not have to be stimulated to work in order to earn the wherewithal to spend; all labor willingly in the "vineyard" and all have something in hand for a rainy day.

The Chinese are always in the market for a bargain and are economical, not sentimental, buyers.

A digest of what has gone before will not come amiss to the prospective Chinese trader:

Generally speaking, the higher the latitude, the larger and less intelligent is the native; knowing that the wheelbarrow is largely used in the handling of freight, he can pack his goods accordingly; that the children, and especially the boys, are well looked after, often indulged, and may be exploited by attracting the parents with novelties for children; that amusements are scarce and much sought after.

UNFAMILIARITY WITH LOCAL CONDITIONS LEADS TO LOSS

Lack of a little local knowledge has frequently led to large commercial loss. Some years ago the electrical equipment for the tramways in a southern Oriental city was ordered from one of our leading companies. After operation commenced it was found that the controllers were too high for the average motorman; his arm quickly tired. This was remedied by each motorman providing himself with a little platform. In the Orient, anything detachable is generally supplied by the user.

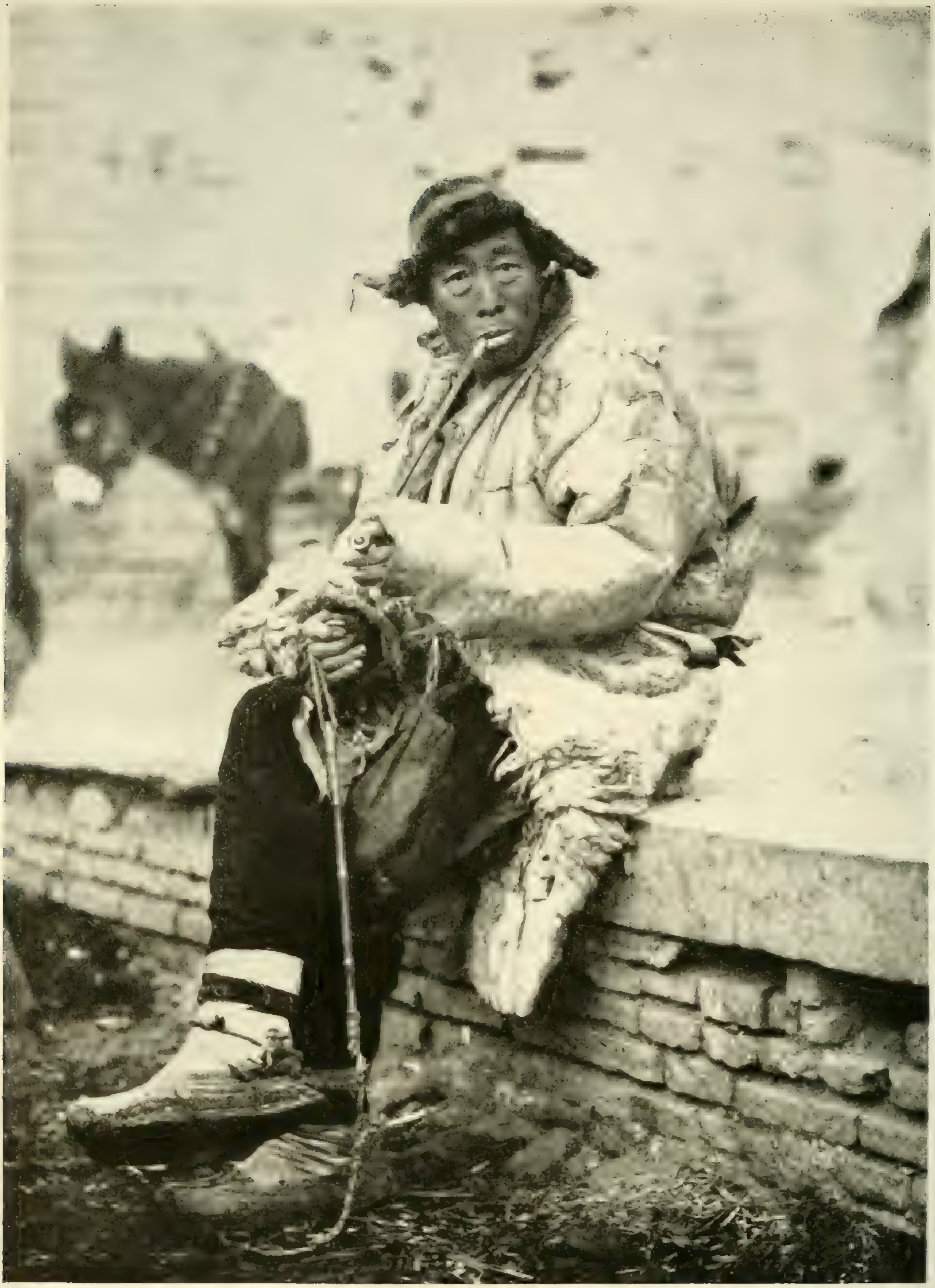
Photograph by Guy Magee, Jr.

A MENTAL AND SOCIAL DERELICT

Devoid of kith and kin, physical suffering and mental anguish have held sway until his mind could no longer endure the strain. When he loses his family, the man in the street in China loses the great stabilizing influence of his life.

The well-informed manufacturer would have prevented the mistake in controller design and have secured a permanent market as well. European competitors were quick to introduce a controller of suitable height, through which they secured this company's subsequent business.

The types of Chinese which have been considered here are those of the street, comparable in the West to those of the small shop districts; officials, literati, and wealthy merchants have not been considered, for a Westerner having opportunity to observe them would be too well versed in native affairs to confess that "all Chinese look alike" to him.



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A NATIVE OF PEKING ATTIRED FOR COLD WEATHER

The north winds are bitingly cold in Peking, killing vegetation and freezing rivers and lakes. The "Mongolian wind" is a hurricane, which fills the air with such clouds of dust as to make the sun seem in eclipse.

SHIFTING SCENES ON THE STAGE OF NEW CHINA

An understanding of the present condition of unrest and political chaos in China is impossible without some knowledge of the background of the past.

The form of China's government under the empire might be compared to that established by Alexander the Great after his conquest of the world. The Emperor at Peking stood at the head of a country divided into independent provinces ruled by satraps, or governors, whose sole obligation to the central government was completed when they sent to the imperial treasury their allotted quotas of imperial revenue and insured peace within their respective provincial boundaries.

These satraps were the product of and were assisted in their work by the younger and less advanced products of the literary examination system. They composed the mandarinate, or civil-service class, which monopolized the educated element of the nation.

The end and aim of an ambitious young man under this system was to pass successfully the examinations and thereby obtain preferment in the civil administration of the country. There was no need for education in any other walk in life.

Held together at first by a strong alien ruling house which they despised, members of the mandarinate later came to support that house (the Manchus) as the panoply of a government upon which they depended for their station in life.

A SHOCK TO CHINA'S PRIDE

A government may retain the confidence of the people it governs as long as it is maintained in the interests of the governed and not its own employees. It must react promptly to the demands of the governed, both as to domestic well-being and in its relation with outside nations. When this test is applied, the government maintained in its latter days by the mandarinate is found wanting.

Distrust grew, rebellion followed. For years the government had allowed the public works of the country to go unrepaired; nor was money spent on new work.

In 1894 the people suffered a shock to their pride and trust in this government through the defeat of their armies at the hands of the Japanese. The nation, besides losing important territory, was forced to go into the financial markets of the world to borrow money to pay its war indemnities.

The broker nations demanded certain concessions as a *quid pro quo*. There ensued the battle of concessions. Between 1896 and 1898 Russia got Dalny, Germany got Tsingtau, Great Britain got Wei-hai-wei, and France got Kuang-chau-wan.

MANCHUS DIVERTED THE BOXER UPRISING

In 1900 the so-called "Boxer Uprising" occurred, beginning as an attack upon the Manchu Dynasty, which the people blamed for their troubles, internal as well as external.

The Manchu rulers skillfully diverted the wrath of the so-called uprising from themselves to the foreigner, and thus succeeded in obtaining a few years' reprieve, during which time they made a violent effort to retrieve lost ground and win back the confidence and trust of the people they had so grossly misgoverned. They saw the "handwriting on the wall" and inaugurated an attempt to centralize the government by nationalizing railway construction, adding to the prestige of the army by making the Emperor its commander-in-chief, etc.

But it was too late. The plan for railway construction precipitated a conflict between the forces in favor of centralization and those (greatly in the majority) in favor of continuing the old plan, based on the independence of the provinces.

This conflict was characterized by overt acts of hostility, of which those who had been plotting revolution against the Manchu House took advantage.

In 1911 came the short revolution which within three months brought about the formal abdication of the Manchus, who fired a Parthian shot by turning over the government to Yuan Shih-K'ai, a leader of the strongest party in the man-

Photograph by J. A. Muller

OUTSIDE THE WALLS OF PEKING

The coolie a-foot is not carrying a banner with a strange device; his bamboo staff is merely the goad with which he prods the listless donkey of his master.

darinate, who had led the imperial armies against the revolutionists.

When the Manchu House was abolished the panoply of government was gone. There were left the mandarinate—the priests of the temple, as it were—and the common people, who in the aggregate made a great, contented mass, peace-loving but uninterested in government, unleavened by the education which had been reserved for the mandarinate, and therefore unpatriotic.

The mandarinate class was composed of the scholars of the old educational system. The new generation was bringing with it a new set of scholars, for the most part educated abroad, who were returning to China with a profound respect for Western learning and an equally profound contempt for everything for which their fathers stood.

YOUNGER GENERATION INSPIRED REVOLUTION

It was the younger generation that had inspired and helped to organize the successful revolution; but the Manchus had handed the government over to the older generation, the mandarinate, which at once was forced to commence the struggle for very existence against the attacks of the impatient younger generation, dissatisfied with an empty victory.

Thus we find the situation in 1912:

1. The reigning family was gone.

2. Two parties were left struggling to control the government that was to take its place—first, the mandarinate (strongly of the belief that the monarchical form of government was the only one suited to the Chinese), and, second, the new generation of scholars (decidedly imbued with the idea that a democratic form of government modeled upon the plan of the American Republic was not only suited to the Chinese, but to the advanced times in which we live).

And so there resulted the two attempts of the mandarinate to establish a monarchy: First, Yuan Shih-K'ai's attempt to form a dynasty in 1916; next, Chang Hsün's attempt to restore the Manchus.

In the meantime the common people, the merchants and farmers, were sitting by, observing a strict neutrality, suspicious of both sides and apparently helpless.

To the previously mentioned three classes of people in China, namely, the mandarinate (scholars and gentry), the merchants and farmers, and the younger generation of scholars, who are becoming lawyers, teachers, doctors, and engineers, there must be added a fourth class, which must be considered in China as well as in every other country. Marx called them the laboring proletariat. In China they are called coolies. They are the "hewers of wood and drawers of water." Vast numbers of them found employment as porters, muleteers, river boatmen. It was to them at the end of a day of hard toil that opium came as a blessing, affording relief from the grinding fatigue and utter exhaustion which their ill-nurtured bodies suffered.

THE COOLIES PROFOUNDLY AFFECTED BY NEW CONDITIONS

The coolies had been profoundly affected by conditions. In the first place, opium was taken from them, leaving a dissatisfied lot of men who could no longer use it. There were also a few discontented opium-growers, who had been thrown out of work by the destruction of their one money crop.

Then, too, during the past sixty years there has been a great extension of shipping along the coasts, rivers, and canals of China, and many railways have been built. All of these developments have resulted in the changing of trade lanes—the abandonment of old routes for new ones.

For instance, the old highroad that ran from Canton north through Hunan to Hankow was once alive with porters, muleteers, wheelbarrow and chair coolies. As a trade route, it is now dead; for it is cheaper and quicker to supply the country by steamers from Shanghai. The Grand Canal has been abandoned for the quicker and cheaper avenue of the Tientsin-Pukow Railway and the steamers that ply the coast between Shanghai and Tientsin.

The old caravan route that began at Tientsin, passed through the Great Wall, and ended at Kiahta, in Siberia, over which furs and tea were exchanged, has been abandoned for the railways of Manchuria and the steamers that ply between Shanghai and Vladivostok.

These changes mean that countless numbers of coolies who formerly found employment in the transportation of freight and passengers over those ancient routes have been thrown upon a country the ordinary food-producing population of which has been growing constantly. They form a floating labor population now preying upon the landed population.

THE BACKGROUND FOR TODAY'S EVENTS

Thus we have our background:

First. The mandarinate (trained in a school which emphasized the administrative side of government, and therefore inheriting no belief in the ability of the people to govern themselves through legislation of their own making) struggling to retain control of the administration, inclined toward the monarchical form of government as the one best suited to their needs and the needs of the people, but too jealous of one another to be able to set up a reigning family chosen from among themselves.

Second. A peace-loving, unpatriotic merchant and farmer class, which through the centuries has left matters of government in the hands of the mandarinate and which has therefore not inherited any feeling of civic responsibility or patriotism.

Third. The patriotic scholars of the younger generation, who are impatient to take over the work which they feel that the mandarinate of the old order is unfit to do, imbued with a belief in a democratic form of government modeled upon that of the United States.

Fourth. The coolies, discontented, out of work, unpatriotic, ignorant of government, ready to march and fire a gun for any side that will furnish them food, money, and clothing.

A further complicating factor in the situation is the fact that among the Chinese provincial loyalty has been developed to a very high degree, thus injecting into the struggle an element much akin to our old question of "States' Rights."

This is the stage setting for today's political drama.

We are now ready to consider some of the actors.

Photograph by Robert F. Fitch

A HUMAN FERRY IN CHINA

Note the extended tongue of the coolie; it does not indicate fatigue, however.

The mandarinate has always been dominated by strong leaders, similar to our political bosses, who have surrounded themselves by followers (generally fellow-provincials) made loyal through rapid advancement in the civil service of the country.

TWO OPPOSING PARTIES IN THE MANDARINATE

Men rose to leadership through skill in military command or through proved ability as scholars or statesmen. Thus Hunan produced two great military leaders in the persons of Tso, who put down the Mohammedan Rebellion, and Tseng, who helped Li-Hung-Chang put down the Tai-Ping Rebellion. As a result, natives of Hunan dominated the mandarinate for many years. Li-Hung-Chang was himself a native of Anhwei Province and he helped greatly its prestige.

The mandarinate is at present divided into two opposing parties — the Kuangtung faction, which has had the sympathies and support of the newer generation of scholars, and the Pei Yang Party, led by the followers and protégés of Li-Hung-Chang and Yuan Shih-K'ai. Canton is the center of the former party, Peking of the latter. The Pei Yang was by far the most powerful of the mandarin factions, but it has become divided into cliques during the last few years.

Of these cliques one of the most important was the league of governors of the Yangtze Province, who have maintained a kind of neutrality in the struggle, believing in compromise rather than force as a means of settling the people's differences. Then there were the extremists, like Tuan-Ch'i-jui, who believed in force. Tuan was instrumental in organizing the now famous Anfu Club, composed of the elements in favor of force.

The name Anfu is made up of the first syllables of the names of the Province An(hwei) and Fu(kien), and is therefore supposed to be a union of the forces controlling the Chinese army (Anhwei) and navy (Fukien)—an idea similar to that of the Japanese system, whereby the two clans which have held traditional control over the army (Satsuma) and the navy (Closhu) have combined as the Satcho element to control the Japanese cabinets through those branches of the government administration.

In China the army is by far the more important of the two, and over a thousand of the younger Chinese army officers obtained their education and training in the Japanese army schools.

Until 1914 the issue had been clearly drawn between the mandarinate as a whole and the more modern, radical element. The undivided mandarinate, direct heir to the Manchus, had successfully defended its right to control the administration of the country in 1913 against the attacks of the radicals, led by Sun Yat-sen and others. Loans obtained from Western lending nations assisted them in their control, furnishing them with the financial aid needed in reorganizing the revenues and currency of the country.

During this period Japan, having no money to lend, was thought by the mandarinate to be furnishing refuge and encouragement to the radical element, which was continuously plotting revolt against the party in power; but with the beginning of the World War a new situation was brought about. Europe needed its money, and as a result the mandarinate began to suffer through lack of funds. The radicals began to regain hope.

THE MONARCHICAL FIASCO

In 1916 came the great monarchical fiasco of Yuan Shih-K'ai and the latter's death, some say from a broken heart. He left the government treasury impoverished and the people of the country thoroughly suspicious of the intentions of the mandarinate.

In 1917 America entered the war on the side of the Allies and invited the hitherto neutral nations to join her against the Germans. The mandarinate, now led by Tuan-Ch'i-jui, and the so-called Anfu Club saw in this invitation an opportunity to obtain the financial assistance necessary in putting down revolt and making secure its control of the country. The radical element realized the danger and tried to prevent a declaration of war. The latter had the majority of the people with it, for there was much suspicion of a plan for a return of the Manchu House and there was also a genuine fear that joining the Allies meant throwing China upon the mercy of Japan, already unpopular because of the famous "21 demands" of 1915.

Tuan-Ch'i-jui, who had had his Anfu Club in excellent working trim for some time, by clever tactics obtained his declaration of war, and through the control which the Anfu Club had over the ministries of communications and finance, he was able, on scant security, to get money for his plans from Japanese bankers. He made an attempt to force the radical element in the south to come to terms, but without success.

The close relationship which appeared to exist between his party, the Anfu Club, and Japanese money-lenders gave his enemies in the Pei Yang Party their opportunity. They refused to help him in his efforts to coerce the radicals by military force, bringing about a stalemate and an attempt at a peace conference.

The World War ended with the defeat of Germany, and Japan, faced with a more serious situation in Siberia, cut off the ready supply of funds which was helping the Anfu Party in China. General Wu-Pei-fu, commander of the forces of Chihli Province under Military Governor Ts'ao-K'un—the leader of the Chihli faction of the Pei Yang Party, which was opposed to the Anfu faction—withdrew his troops from between the forces supporting the radicals and those of the Anfu faction, thus precipitating open strife between the two, in which the Anfu faction was defeated.

Tuan-Ch'i-jui, with those loyal to the Anfu Party, attempted to suppress the Chihli faction, but he found that the accumulation of distrust of the mandarinate, himself, and the Anfu Club, the last because of its intrigues with the Japanese, turned the country against him, and he lost.

The alignment in this last struggle was interesting. Dividing the mandarinate of the country as a whole into two factions, we had in the south the Kuangtung Party, while in the extreme north was the Pei Yang Party, with the neutral league in Central China benevolently neutral toward the extreme north.

In the beginning the new generation of scholars, led by Sun Yat-sen, Tang

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A QUICK-LUNCH COUNTER IN PEKING

The genial smile of this sidewalk Boniface is a business asset of much account. Note the "steam table" in the foreground and the chef busy over the caldron in the background.

Shao-yi, and Wu Ting-fang, sided with the Kuang-tung Party and participated in the government which it set up at Canton.

In the spring of 1920 it was evident that there had been a split, however. Sun Yat-sen, T'ang Shao-yi, and Wu Ting-fang severed their connections with the Kuang-tung faction and took with them one of their military leaders, Tang Chi-yao. As already indicated, there had been a split in the Pei Yang Party, between the Chihli faction and the Anfu faction.

THE MANDARINATE STILL IN CONTROL

When the final struggle against Tuan Ch'i-jui came there were not lacking evidences of a joining of forces among T'ang Chi-yao (of the Kuang-tung faction), the leaders of the new generation (Sun Yat-sen, Wu Ting-fang, Tang shao-yi), and the Anfu clique, against which formerly they had been violently opposed.

An understanding seems also to have been reached between the main section of the Kuang-tung faction and the Chihli faction. This latter combination was not only the more natural of the two, based as it was upon the common interests of the two factions of the mandarinate for self-preservation, but it was the more powerful, as it drew to its banner all of the neutral elements, such as the Yangtze league of governors and Chang Tso-lin, military governor of Manchuria. In a few days it had forced Tuan Ch'i-jui to yield his power and give up his soldiers. The Anfu Club was abolished and its members dispersed.

The situation has not changed materially during the last few months. It has been proved that even in China an element cannot survive long on alien support, as the Anfu clique tried to do. The party in control is still the mandarinate, and there is still an opposition, composed of a new generation of students and young men.

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FALCONRY, THE SPORT OF KINGS

Once the Means of Supplying Man's Necessities, It Has Survived the Centuries as One of the Most Romantic Pastimes of History

By Louis Agassiz Fuertes

Illustrations in Color from Paintings by the Author

IT WILL surprise many to learn that the art of falconry, or hawking, goes back to the remote and unwritten past. We have many proofs of this in the frescoes and sculptures of the early Egyptians and Persians. And in all the time that has passed since that early day there has never been a total lapse of the art; falconry has in every age been carried on in some part of the world. Reference material is found in books not only of England, Holland, France, Italy, and Spain, but of China, Japan, and Russia, while the sport has been followed from immemorial time in India and northern Africa.

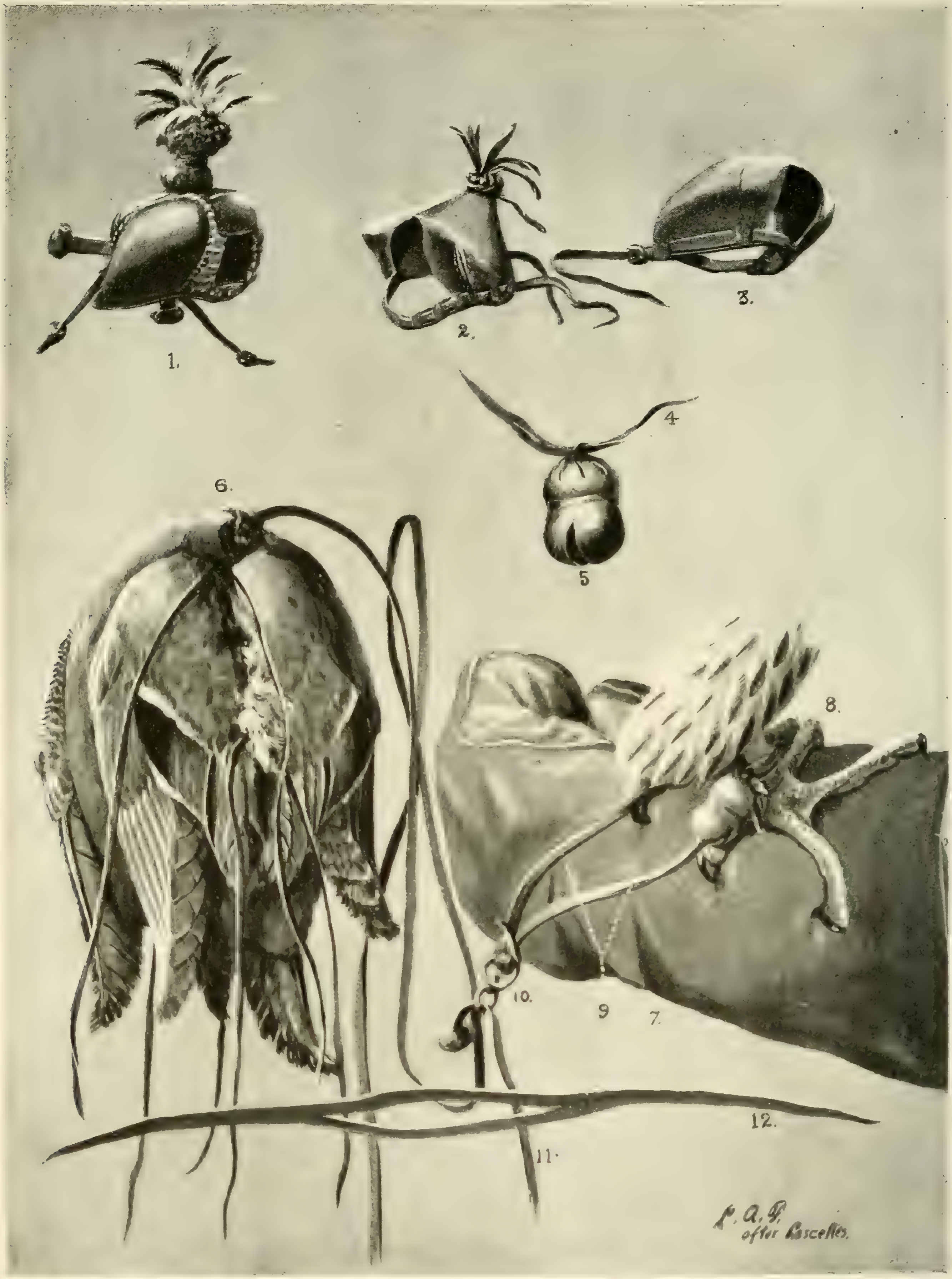
The ancient Greeks apparently knew nothing of falconry, but the Lombards, settling in north Italy about 560, knew of the art, and by 875 it had become a generally known practice throughout western Europe and Saxon England. From that time it thrived, filling an important place in the life of the times.

RETURNING CRUSADERS WERE ENTHUSIASTIC DEVOTEES OF FALCONRY

A vast impetus was given to falconry by the returning crusaders, who had become familiar with the methods of the Orient and had brought with them both falcons and trainers. War lords never left their courts without their falconers and a cadge of hawks, to be flown at anything that might be deemed worthy.

The gun, of course, delivered a serious blow to the art, as it provided a quick, sure, and inexpensive way of getting meat. Still, the real devotees were never greatly affected by this device, and through the centuries, up to the rebellion in England, and later through the French Revolution on the Continent, falconry survived the difficulties imposed by the introduction of firearms, the breaking up of the country into small holdings, the reclaiming of large areas of wild land, and other inevitable changes incident to a multiplying and advancing population.

As a general practice, however, falconry in Europe ceased after the great social upheavals mentioned. Its maintenance as a sport since then is attributable in large measure to half a dozen hawking clubs, among which are the Falconers' Club, the High Ash Club, and the Loo Club in Holland. There were probably thirty or forty private establishments in England in 1914, but no doubt the World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L. A. F. after Lascelles.

Drawing by Louis Agassiz Fuertes (after Lascelles)

TRAPPINGS AND GEAR USED IN FALCONRY: "HAWK FURNITURE"

(1) Dutch hood, commonly used on all but newly caught hawks; (2) Indian hood, preferred by some falconers for the same use as the Dutch hood; (3) Rufter hood, for new-caught hawks, made of soft leather and open behind, merely covering the eyes; (4) Bewit, a light strap by which to hold on the bell; (5) Indian bell, the type preferred to all others; (6) Lure; (7) Glove or gauntlet; (8) Method of attaching the bell and jess to falcon's foot; (9) Jesses, light straps permanently attached to falcon's feet; (10) Swivel, through which is passed the leash; (11) Leash, by which the hawk is held till quarry is sighted; and (12) Brail, a slit strap that goes over one wing and is tied around the other side of the hawk, to prevent it from "bating," or flying off when still wild.

War has made a heavy toll on both the personnel and the support of the sport.

Within the last twenty years there had been a great renascence of amateur falconry among the English, and some rather successful attempts have been made in America, particularly in the Genesee Valley, New York.

The great expense of maintaining the birds, due to the scarcity of experienced trainers and catchers, and the difficulties of forwarding so rangy a sport in the settled conditions of most of our eastern country have made it impossible, however, to achieve any real success in America and the growing sentiment against killing all but a few species of game-birds will probably act as a further deterrent. Still, there are several common birds which are recognized as game that would make admirable quarry for the peregrine, notably the quail of our Atlantic States and the sharp-tailed grouse of the northern prairies. The native wild goshawk is already the chief problem of all the grouse of our northern wooded section.

HAWKS ARE AMONG THE SHYEST OF CREATURES

While it is true that in training hawks to hunt, as in all other animal training, advantage is taken of the natural proclivities of the creature in hand, nevertheless, it seems at first glance that these vigorous and intrepid birds are taught to go almost directly against their instincts. First of all, being among the wildest and shyest of creatures, they must be taught that man, instead of being their worst enemy, is really their best friend. Then the rest becomes comparatively easy, if no mistakes are made. But any one of hundreds of possible errors may undo weeks of patient and successful labor.

Then, too, since different kinds of game must be hunted at different times of the year and in different kinds of cover, either the same hawk must be trained first for one type of work and later for something entirely different, or different kinds of hawks must be used.

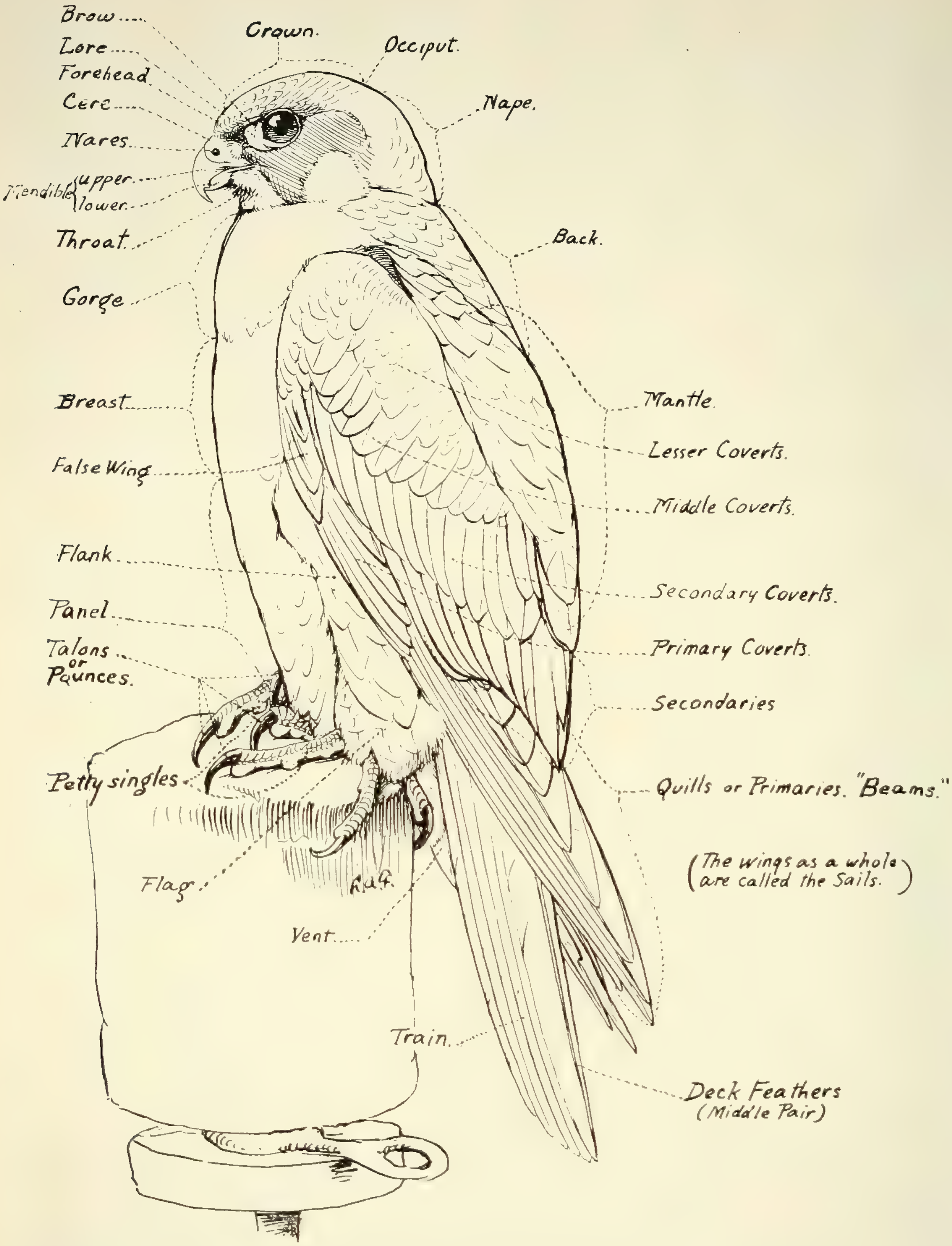
Of the hundreds of kinds of hawks, only certain ones possess the combination of qualities necessary for this beautiful and romantic sport. A hawk must be at once kind and fierce; it must be able to stand the changes of climate of its owner's country; it must be strong enough and swift enough to overtake and strike down its quarry, and intelligent enough to be able to unlearn much of its native knowledge. These qualities are possessed by only about a dozen species, belonging to two groups or genera—the true falcons, of the genus Falco, or long-winged hawks, and the short-winged group of forest-hawks known as "Accipiters." Only two of the latter are used, the goshawk and the European sparrowhawk. (The bird known in America as sparrowhawk is a small falcon which feeds principally on insects and is useless for hunting.)

THE PEREGRINE IS THE MOST COSMOPOLITAN OF BIRDS

The peregrine is the only falcon proper found all over the world. There is no other bird with such a cosmopolitan range. It is found on both sides of the Equator, throughout the entire world, nearly to the Arctic and Antarctic circles. It is natural, then, that this should be the falcon of falcons and known to all ages of man as a tractable and capable help in his search for food; for falconry was at first a very practical and even sordid pursuit, only later—much later—becoming the sport of the privileged classes.

A peculiar set of traditions and an equally picturesque language have become inseparably attached to the art of falconry; and it is only fair to the Scotch, who, in their conservatism, have been responsible for the colorful language of golf, to give them the credit for preserving the romantic terminology of falconry. It was in Scotland that the art was perpetuated after it had languished over most of Europe.

Ancient history is eloquent with the influence of the noble sport of hawking, the history of medieval Europe is richly colored with it, sixteenth and seventeenth century literature fairly abounds in passages concerning it, and the language of the day was so tinctured with the jargon of the hawkers that it is fair to conclude that, before men had knowledge of gunpowder and the fowling-piece, hawking was such a general practice as to be the principal means of obtaining wild game.



Drawing by Louis Agassiz Fuertes

A CHART GIVING THE FALCONERS' NAMES FOR THE PARTS OF A HAWK

According to the "Boke of St. Albans," published about 1486, the kinds of hawks apparently used by the various elements in English society are given as follows:

Emperor	Eagle.
King	Gerfalcon and tiercil of gerfalcon.
Prince	Falcon gentle and tiercil gentle.
Duke	Rock falcon.
Erle	Peregrine.
Baron	Bastard.
Knight	Sacre and sacret.
Squire	Lanare and lanret.
Lady	Mezlyon (Merlin).
Young Man	Hobby.
Yeoman	Goshawk.
Poorman	Tezcett.
Priest	Sparrowhawk.
Holywater Clerk	Muskayte.

THE FALCONER'S NAMES FOR HIS HAWKS

Falcons of the same kind differ so in performance and character, according to their experience before being taken in hand, that the falconer has separate names for each type, as follows:

Eyess is the name given to falcons taken from the nest;

Brancher is applied to young that have left the nest, but not the neighborhood of their infancy;

Passagers are birds of the year caught in the autumn migration;

Haggards are adult birds with two or more years of wild experience;

Falcon is strictly the female of any of the larger long-winged hawks, while the male, being nearly a third smaller and lighter in weight, is called the "tiercel" or "tarsel." In strictest usage (now generally ignored) the tiercel is the male of the goshawk, the larger of the short-winged hawks, while the male peregrine is the "light tiercel" or "tiercel-gentle" of Juliet's time. Being so much larger and stronger, the female, or falcon proper, has always received the greatest share of the falconer's regard and labor.

One who trains and hunts long-wings only is the true falconer, while the user of goshawks and sparrow-hawks is technically an Austringer or Ostringer, from the Latin *Astru* (French *Autur*), the generic name of these hawks.

The falconer has a special name for every part of his hawk and for everything he does.

Falcons are brought into subjection to man's will either by being taken from the nest just before they are able to fly or by being caught wild after they are fully grown and self-supporting. Those taken from the nest (eyess hawks) are the ones usually trained over most of Europe. Ordinarily they are much gentler and more easily trained, but lack the dash and style of the wild-caught birds known as "haggards." In India and Africa, however, the eyess is virtually unknown, as the hawks are always trapped adult.

THE BIRD'S TRAINING BEGINS

In the training of eyesses the procedure of the present day differs only slightly from that of the Middle Ages. Modern falconers use very much the same quaint medicines and nostrums and have the same names for falconine troubles as are so picturesquely described by Bert in his "Treatise of Hawks and Hawking," published 300 years ago.

The young hawks are left until nearly all the down has been replaced by brown feathers. Their removal from the nest takes place toward evening, when they are put in a hamper and sent to the falconer. It is highly desirable that as much as possible of their journey be made at night.

Arriving at their destination, they are placed in a roughly made nest and fed on chopped beef and egg, and a little later on fresh birds, rabbit, rat, or squirrel. All food should be tied to a board in a given place, to force the young hawks, which are otherwise free except for the bell and "jess," or leg-strap, to come to the same place for food.

The birds are now "at hack" until they learn to fly, and begin to stoop at live prey on their own account. They should be left entirely alone, and for the present the wilder they become the better; for should they come now to associate food with man's presence, they would at once start clamoring and screaming every time they saw a man—a most undesirable trick.

If properly "hacked," the young birds soon learn to make long flights into the surrounding country, returning at regular intervals to be fed from the shelf or feeding-board. They may be left in this state of virtual freedom for some three weeks.

Photograph by Guy Bailey

PEREGRINE FALCON AT HER EYRIE ON THE FACE OF A 400-FOOT CLIFF NEAR ITHACA, NEW YORK

A pair of falcons has nested for many years in the same deep gorge. One July day sixteen pigeons were brought to the young hawks by the parent birds.

until they begin to catch prey for themselves. Then they are "caught up." It is time to catch them when they begin to be absent at the regular feeding time.

A bow-net is used in the trapping—a light twine net fastened along one side to a stick bent into a half circle, the free side being pegged down and the ends of the stick swiveled to pegs in the ground.

The net is folded back on the pegged side and a light cord fifty yards long tied to the middle of the bow. The trap is then baited with a tempting morsel, also pegged in place, and the bird is trapped when it comes to feed. The moment it is caught a soft leather hood, open at the back and known as a "rufter," is placed over its eyes and tied on, a swivel and leash tied to the jesses, and it is put down on soft grass with a block to sit on and left for an hour or two to settle down.

Its real "manning" (training to endure the presence of strangers) now begins. It must be carried on the gloved hand for several hours each day, spoken to, and softly stroked until it begins to lose its nervousness and becomes reconciled to the hand as a perch. It may now be fed a little, and when it eats without hesitation the hood may be removed gently, in candle-light, and the meal nearly finished unhooded. The rufter must be replaced before the end of the meal, however, or the hawk will come to associate the hood with the end of its feeding time, and resent it.

When the bird feeds freely by candlelight it may be tried in daylight, and after this is accomplished it should be accustomed to the presence of men, children, dogs, and other creatures ordinarily frightful to it. This does not usually take many days.

MOST OF THE HAWK'S LIFE IS SPENT IN DARKNESS

Now comes the hardest part of the manning—the breaking to the hood.

This is a delicate business, one in which many a fine hawk has been ruined, as a hood-shy hawk, whatever its other virtues, is of no use to its owner. Most of the hawk's life henceforth is spent in the darkness of the hood, which is only removed in the loft or at the moment when it is to be flown at quarry.

THE HAWK IS TAUGHT TO STRIKE AT A SWINGING LURE

Thus far our hawk has been fed always from the hack-board or from the fist; now the lure must be brought out and put into use. This is a padded weight (a horseshoe is excellent) with wings of teal or pigeon attached. It is also provided with strings for attaching food and a long string by which it can be dragged. The hawk is given a bite or two from it, when it is thrown to the ground, where the meal is finished.

For a time now the bird must be fed only from the lure.

As soon as the hawk recognizes the lure immediately and flies to it for food, it is given, hooded, to an assistant and "hooded off" to the falconer, who swings the lure some 200 yards distant. The bird probably will fly at the lure almost at once and in any case will discover and recognize it soon.

The lure is twitched out of sight just as the hawk goes to grasp it. At the second attempt the food tied to the lure should be awarded, and after a few repetitions of this the bird will seldom be far from its master when he has the lure with him.

The bird must now be taught to kill for itself, and a fledgling pigeon is a good subject for this. If properly trained to the lure, there is no danger of the hawk "carrying" (flying off with its quarry), which is a serious fault. After a few "easy" birds, a capable old pigeon may be flown.

The hawk, unless unusually good, will miss on this quarry, but on returning high in the air should be thrown an easy bird; then well fed and petted. It has probably learned from this that to succeed it must be above its quarry. After this is learned, the hawk may be flown at wild game.

This is the merest outline of the training of young hawks. It is an easy task, compared with the manning of haggard or passage hawks, which have for a season at least been accustomed to shunning man as the worst of all evils.

Hawks may be caught anywhere within their range, but by far the most famous place for this exciting (and remunerative) pursuit is in South Brabant, in Holland. Here, near the little village of Valkenswaarde, lies a great open moor, where thousands of passage birds go by in the autumn, followed by the falcons that prey upon them. From time immemorial—certainly well through the Middle Ages—falcons have been trapped and trained here for the nobility of all Europe.

In the heyday of the sport, emissaries from the courts of each little duchy and principality gathered at Valkenswaarde after the trapping and bought for their masters the product of the season's catch.

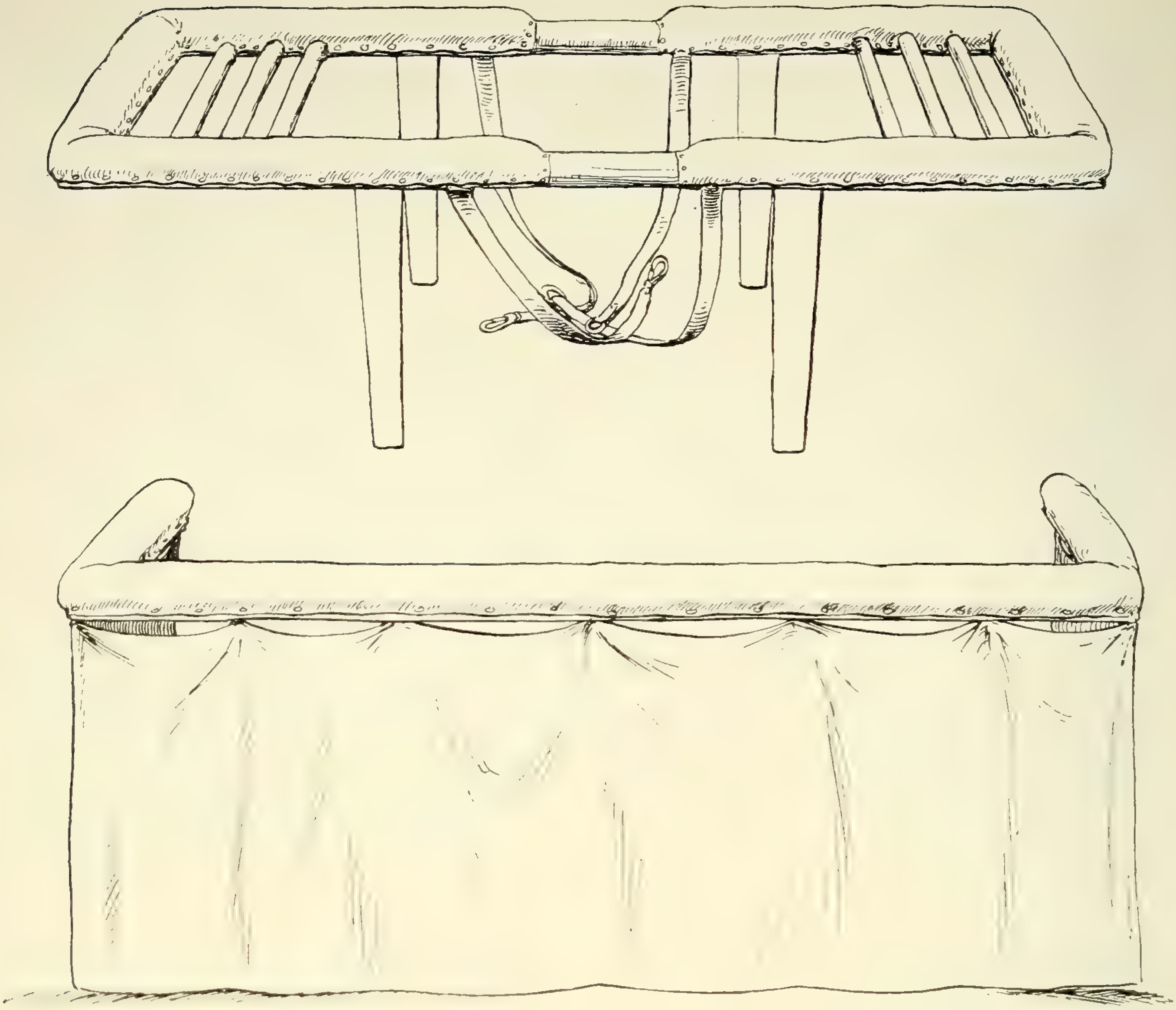
What a picturesque and lively scene these medieval auctions must have been, with knight bidding against knight for the beautiful birds that had been won out of the air and brought into the thralldom of man!

The old cult of falcon catching and training has never completely languished at Valkenswaarde, and the family of Möllens has for many generations led in the industry. Indeed, wherever falconry is practiced the Möllens are known as the most skillful and expert trappers and trainers, and many of the most famous falcons in the history of the sport have come from their able hands.

In capturing the "passage hawks," the trapper conceals himself in a sod hut, from which extend long strings to operate the net and the decoys used to lure the wild hawk within range from afar, after its approach has been heralded by the little telltale "announcer."

THE BUTCHER-BIRD IS THE TRAPPER'S SCOUT

Now, of all birds, perhaps the shrike, or butcher-bird, most cordially hates and fears its big competitor and ogre, the falcon. And the shrike can detect its enemy in the far, far distance much sooner and more infallibly than can man, even with strong glasses. Therefore, the skillful



From a drawing by Louis Agassiz Fuertes

UPPER FIGURE, FIELD CADGE; LOWER FIGURE, SCREEN CADGE, FOR HOUSING FALCONS

The carrier of the cadge was usually a country boy—a tenant of the owner of the hawks. From "cadger" came "codger," a countryman, and doubtless cad and caddie, both typical Scottish derivatives only slightly different in their present-day applications.

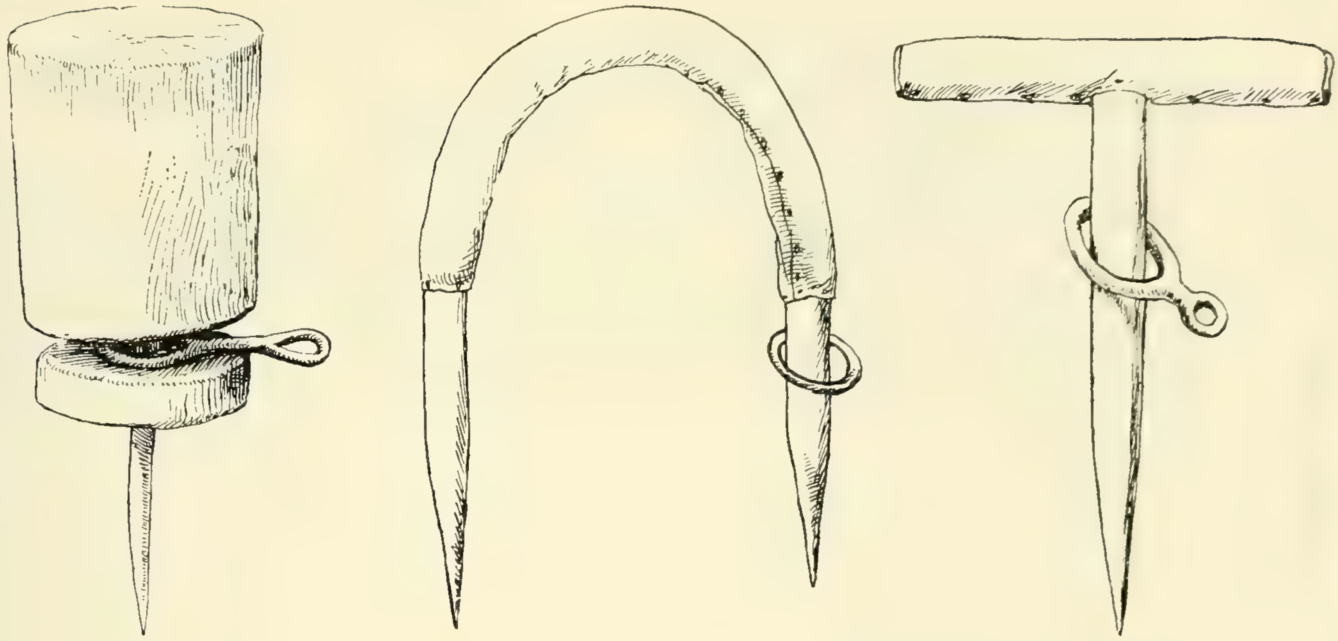
falcon-catcher first traps his shrike and attaches him to a perch on a little sod mound with a retreat into which it may dive to safety when the hawk comes near.

The shrike sits quietly on its perch until it sees a falcon in the distance, when it begins to chatter and scold, getting more and more excited as the falcon approaches, and finally actually "pointing," thus giving the trapper ample time to have everything in readiness.

At the first sign, the trapper retreats into his hut and closes everything except the little peep-window and begins working his tied pigeon and the decoy hawk up and down on the elevated line, to attract the wild falcon's eye.

The actual trap consists of a bow-net set some fifty yards from the hut. Through a ringed peg driven in the middle of the net passes the tether to the bait, a live pigeon which is in retreat in a box a few feet away. When the falcon has come within a hundred yards of the trap the "lure" pigeon is dragged out, flapping its wings. The hawk prepares to stoop. At this moment the "lure" pigeon is dropped and dives to shelter and the "bait" pigeon is drawn out of its box into view. When the hawk has struck, the victim and victor are drawn gently into the exact center of the net, which is then sprung by means of a line from the hut.

The falconer loses no time now. He runs out to the trap, fastens jesses to the



From a drawing by Louis Agassiz Fuertes

BLOCKS AND PERCHES, FOR "WEATHERING" HAWKS

The falcons are all rock-dwellers by nature and are most comfortable when perched on a flat surface; hence blocks are used, with a swivel to prevent the leash from getting tangled up. The short-winged forest hawks, like the Goshawk and Sparrowhawk, have enormous claws, which are greatly in the way on a flat surface, and are therefore weathered on slender "bow" perches. The T-perch is used for eagles.

hawk's legs, and puts a sock over his captive's head and body with as little fuss and excitement as possible—an operation calling for great skill and dexterity. The captured hawk is then hurried to the hut and laid on its back and all is made ready for another attempt.

The training of a haggard hawk is in many respects similar to that of an eyess, but with this vast difference: the eyess, taken young and with no fear or hatred of man, requires simply to be led to do the will of its master, whereas the haggard has to be redeemed by patience and kindness from a state of fierce enmity and suspicion into one of complete docility and submission, and has to unlearn all the teachings of its experience and instinct and learn the will of its new master.

The trainer takes his new hawk to the loft and there removes the sock, replacing it with a soft rufter hood.

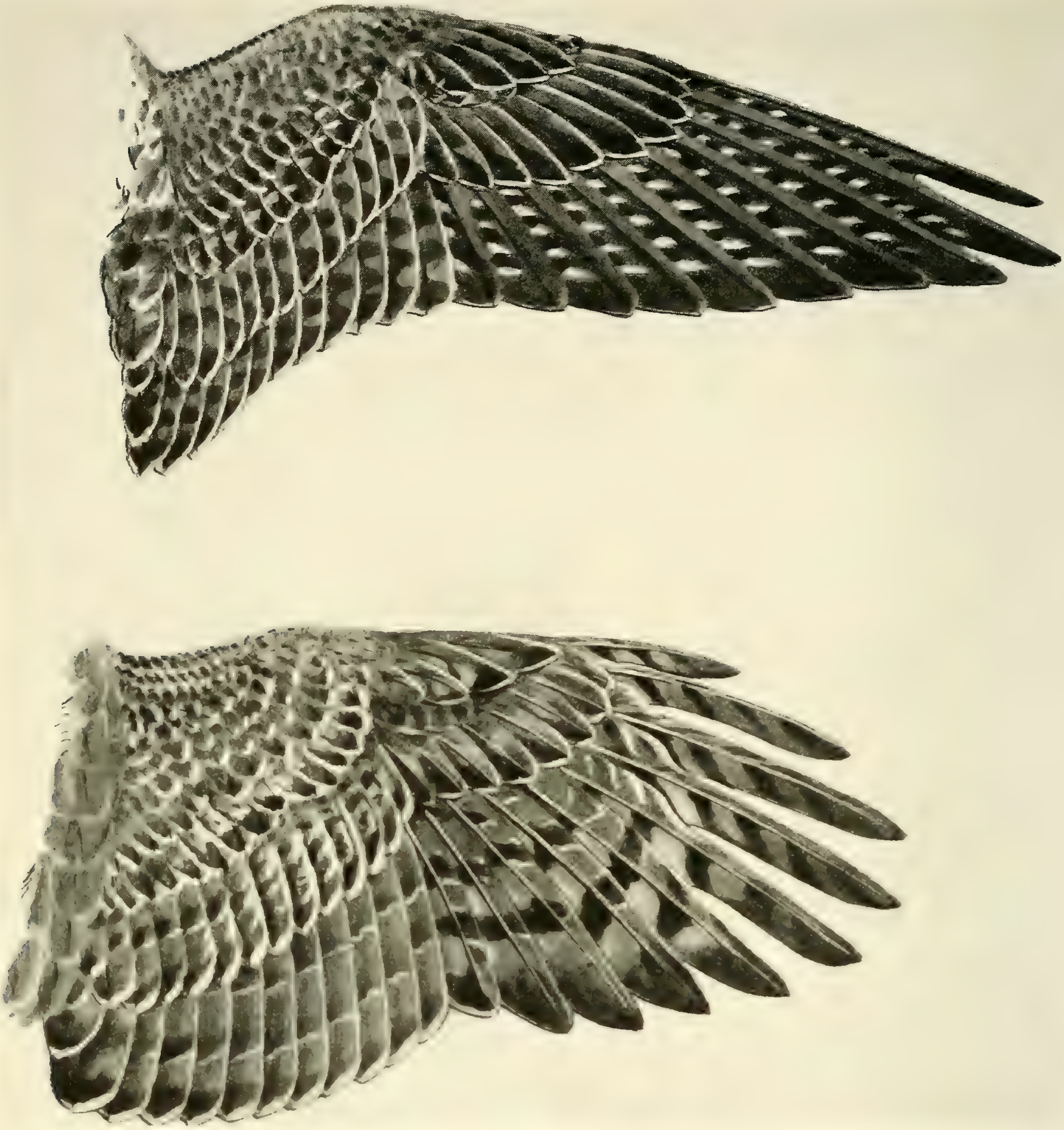
It would take too long to tell in detail all the many difficulties that lie before the falconer; but, with no accidents and much skill, patience, and understanding, a fully adult haggard peregrine may become accustomed to the presence of man and his works in a fortnight. This is accomplished by requiring the newly caught hawk to sit for hours and hours upon the hand and by depriving it of any chance to go to sleep until it is thoroughly reconciled to the new condition. It is then gradually allowed more light and more ease and rewarded with food as its docility progresses.

In some respects it is easier to train the haggard than the eyess to hunt, for the former has long killed for itself, while the food of the eyess has been furnished by its master. Eyesses are usually more tractable and run truer to "form," but the haggard almost invariably has vastly more dash and style than its house-bred loft-mate.

The style of action and methods of hunting are so different with the long-winged hawks and their short-winged cousins that they had best be considered separately.

THE "LONG-WINGS" ALWAYS ATTACK IN THE AIR

The "long-wings," or falcons proper, by nature strike their prey in the air, killing it clean by the direct blow they deliver at the end of their "stoop." They battle for position in the air, attaining their "pitch," or position above their



Painting by Louis Agassiz Fuertes

WING OF FALCON, OR LONG-WINGED HAWK (UPPER), AND WING OF GOSHAWK, OR SHORT-WINGED HAWK (LOWER)

The Long-wing is adapted to swift flight in the open, being flat, long, narrow, rigid, and unbroken to the end, only the outer feather being notched, and that only for a short distance. The Short-wing is adapted for precipitate flight in cover, being short, broad, deeply cupped, elastic, and with the "ailerons" deeply notched on at least five feathers.

quarry, by circling or "ringing," and, when sufficiently well placed, dashing down headlong, hitting their quarry a resounding blow that often can be heard a long distance, following it down and striking again if necessary, but never "binding" to it, and never striking quarry that is sitting or on the ground.

Falcons proper are always hunted in open country, where the quarry is either located and flushed with dogs or beaters and the hawk flown from the falconer's wrist, or the birds are trained to "wait on." In the latter case, upon being unhooded and flown, they ring up and up, attain their "pitch," wait for the game to be flushed, and when it is well under way make their terrific stoop.

On large game, like heron, falcons are often flown in "casts," or pairs, and take turns stooping in rapid succession until the quarry is killed.

In the good old days many kinds of hawks were used, but those most esteemed, because of their size, style, and beauty, were the gerfalcons of the north. Centuries ago the Icelanders caught and trained both old and young birds, and the annual catch sometimes amounted to hundreds.

In general, however, the gerfalcon does not seem to thrive in England or on the Continent. It wilts in the summer and becomes listless, refusing to fly, and finally fading and falling prey to some one of the many ills that beset hawks. This seems to point to a great skill and knowledge on the part of the medieval falconers, who certainly used the gers very extensively and successfully in killing the kite, a most capable hawk, then common all over Britain and Europe.

WHEN THE DESERT FALCON HUNTS THE GAZELLE

The sacre, a "desert falcon," nearly as large and heavy as the gerfalcon, is still used in India for hunting the kite, and probably this is the most thrilling quarry that has ever been used in falconry. The kite is a magnificent flier and spends much time at an altitude of thousands of feet, so that the actual battle often takes place so high as to be almost out of sight.

Another spectacular use to which the sacre is put is in the hunting of gazelles and of bustards. The falconer and his field are mounted on swift horses, and in the gazelle hunt three, five, or more hawks are cast when the quarry is started. It is an exciting chase, full of danger for every one concerned—the riders, because of the chase over rough country; the quarry, because of the number and intrepidity of his assailants; and the hawks, because in their dashing stoops they are frequently impaled upon the horns of their quarry.

The Houbara bustard, a large plover-like bird the size of a turkey, affords a spectacular chase. He does not fly, but, with wings and neck outstretched, runs like a cloud-shadow fleeting over the plain. The hawks, three or more in a cast, pursue and worry their quarry for miles over the desert, only striking the fatal blow when the bustard has become nearly exhausted, as by that time have also such horses as have been able to keep up with the terrific chase.

THE PEREGRINE IS THE FALCON OF FALCONS

The peregrine, falcon of falcons, is not as large or as strong as either the gers or the sacre, but combines, with a hardihood unknown to the "exotics," all the qualities that go to make a good hawk—gentleness, teachability, courage, dash, willingness to "wait on" at a great height, and, most important of all, availability; for, as has been said, the peregrine has a world-wide range, and is therefore obtainable in almost any country where men want to use it. In this article, then, unless specially noted, the peregrine is the subject of the narrative.

In a wild state, were it a common bird anywhere, it would be a very undesirable neighbor, for it preys almost exclusively on birds, and is capable of taking such swift and resourceful game as plover, snipe, and wild-fowl. Its common name in America, the duck-hawk, is well given, the reference being to wild ducks and not the tame bird.

Like many another brigand, the peregrine prefers easy prey to difficult, is in nowise averse to poultry, and is particularly fond of domestic pigeons. A pair whose eyrie I watched on a 400-foot cliff near my home one July day had three young on the wing. During the middle of the day there was little activity and all the birds sat quietly pluming and resting; but for the first three hours in the morning and the last three in the afternoon, one old bird or the other returned about every twenty minutes with a pigeon. On that one day sixteen pigeons were brought to the young.

Of course, this was more than they could eat entirely, and much more per capita than grown birds would consume, but where an adult hawk will keep in very fine condition on half a pound of fresh game a day, a growing fledgling requires above its own weight daily of animal food in order to maintain its miraculous growth and the great physical effort of producing an entire coat of feathers.

There are many recorded instances of

the wild peregrine's adaptability to the easy life of great cities, where congenial nesting and roosting places are found in the belfries, towers, and lofts of the public buildings and pigeons in abundance are available. For many winters an old peregrine appeared in Washington, haunting the Post-Office Department building tower as a lookout, sallying forth whenever it was hungry, making a clean kill on pigeon, and returning to the post-office roof to plume and eat its prey. A member of the Biological Survey went on top of the building and collected a large number of leg-rings from carcasses that had been left by this bold and capable brigand.

A fine old female peregrine I once took from Pajaro Island, in Mexico, was living on white ibis from a convenient rookery, and her lookout tree was well surrounded by the bleached and weathered carcasses of her victims. I fancy her demise was a welcome event on the island.

Many stirring accounts are current of the courage and tenacity of purpose these hawks possess, but one of the most striking is of an eyess falcon belonging to a Major Fisher, which was flown at a woodcock near Loch Eil. Both birds mounted at once, higher and higher, until they were entirely lost to view, even with powerful glasses. After considerable time, however, a tiny speck was seen falling out of the sky, and the woodcock, closely followed by the thunderbolt in feathers that had struck him, fell toward the very patch of fern from which he had been flushed. Before hitting the ground, however, the hawk had again overtaken her victim and struck him stone dead in air. After so long a chase the falcon was well fed up, and, so far as she was concerned, her master wisely "called it a day."

The "Old Hawking Club," organized in England in 1864, always maintained a fine cadge of hawks and kept careful records of individual performances. Between August 12 and September 14 one year, the club's prize bird, "Parachute," a two-year-old eyess falcon, killed 57 grouse, 76 partridges, 5 pheasants, 3 hares, and five birds of miscellaneous species.

"General," a falcon belonging to the Duke of Leeds, killed in 1832 129 out of 132 flights, mostly at partridges. "Vesta" was flown in Scotland in nine successive years, averaging 33 grouse a season. This is an unusually long life of activity.

A glance down the records of famous clubs and of private owners reveals many interesting and romantic names, such as the falcons "Lady Jane Grey," "Empress," "Buccaneer," "Black Lady," "Comet," "Destiny," and "Will o' the Wisp"; tiercels "Druid," "Butcherboy," "Mosstrooper," "Vanquisher"; merlins "Tagrag," "She," "Ruy Lopez"; sparrowhawks "Blanche," "Lady Macbeth," and "Faerie"; goshawks "Enid," "Isault," "Geraint," "Tostin," "Sir Tristram," and for variety "Gaiety Gal" and, grimmest and truest of all, "Shadow o' Death."

A FAMOUS FLIGHT BY "BOIS-LE-DUC"

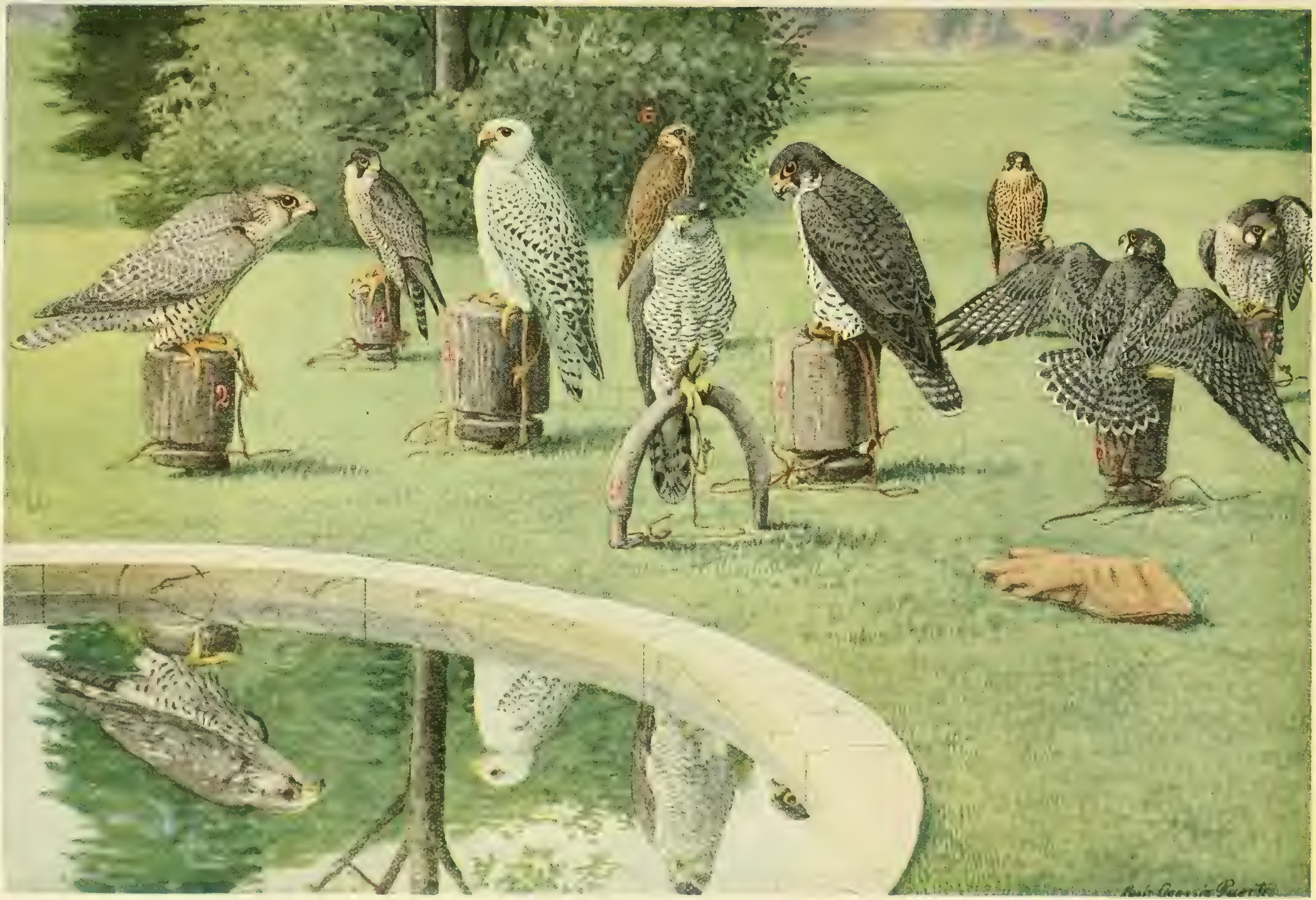
"Bois-le-duc" was a haggard falcon of fine qualities, and the following, quoted from Lascelles, gives us a lively picture of a rook flight by this famous hawk:

"We take up our position behind a stack to wait for a rook passing on his way from the rookery in the valley to the sheepfold on the hill. Presently we see one coming, toiling slowly over the shoulder of the down.

"Shall we fly one of the young falcons lately entered and coming on so well, or shall it be the old heroine of a hundred flights, victress over more than double that number of rooks, that flies now her fourth season with all the vigor and dash she displayed in the blinding snowstorms and heavy gales of her first year?

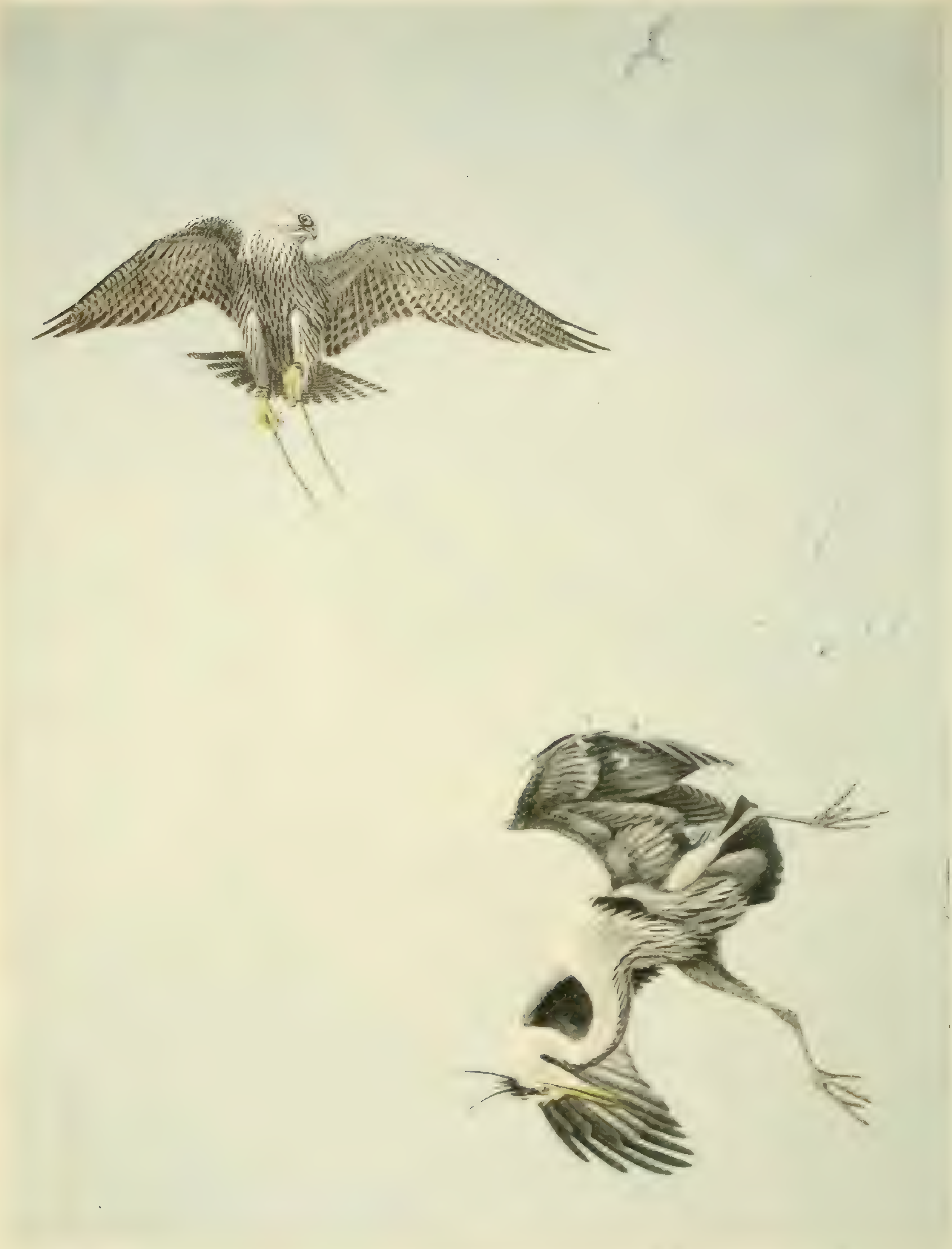
"A hundred or two yards is far enough for a slip with a young hawk, but with a real good one a quarter of mile is not too far, while many and many a time, if the wind be right for her, the old hawk has been slipped at rooks a fair half mile away.

"It looks as if this slip would be too far for a young hawk, so the handsome old falcon is taken on hand, to the delight of the whole field, not one of whom, however large it may be, but will stay out 'just one half-hour more' when it is announced that it is the turn of old 'Bois-le-duc' to fly at the next chance that occurs.



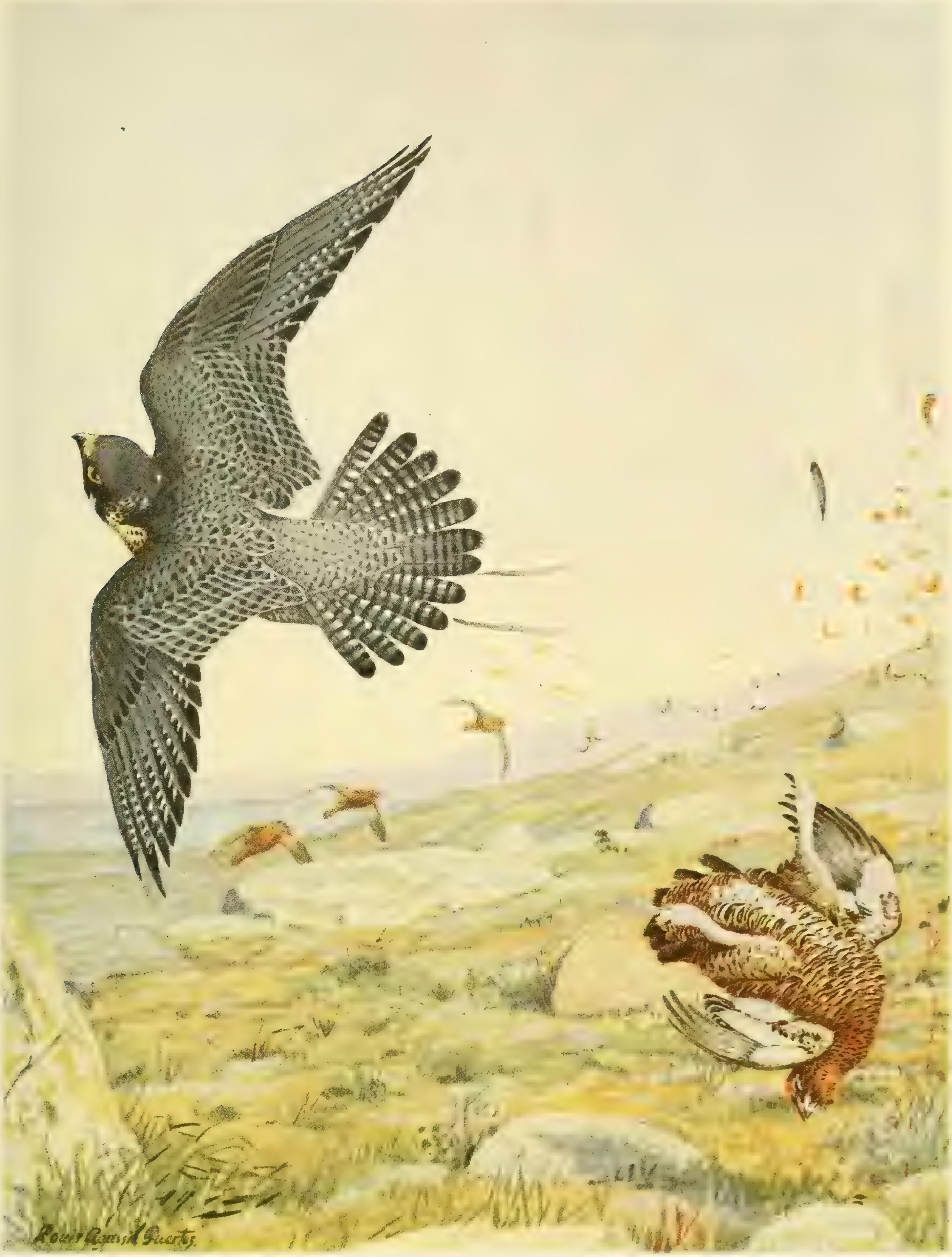
FALCONS WEATHERING

Every pleasant day the falcons are put out on their blocks in the open air, unhooded, for an hour or two, where they preen and plume themselves, and get their fill of fresh air. It also keeps them good natured and contented in each other's presence. The birds shown here are (1) Greenland Gerfalcon, (2) Iceland Gerfalcon, (3) European Gerfalcon, (4) Goshawk, (5) Haggard Peregrine, Tiercel (6) Red or "Soar" Tiercel Peregrine, (7 and 8) Red or "Soar" Peregrine Falcon, (9) Tiercel Peregrine "rousing."



A FAIR HIT: GERFALCON STRIKING HERON

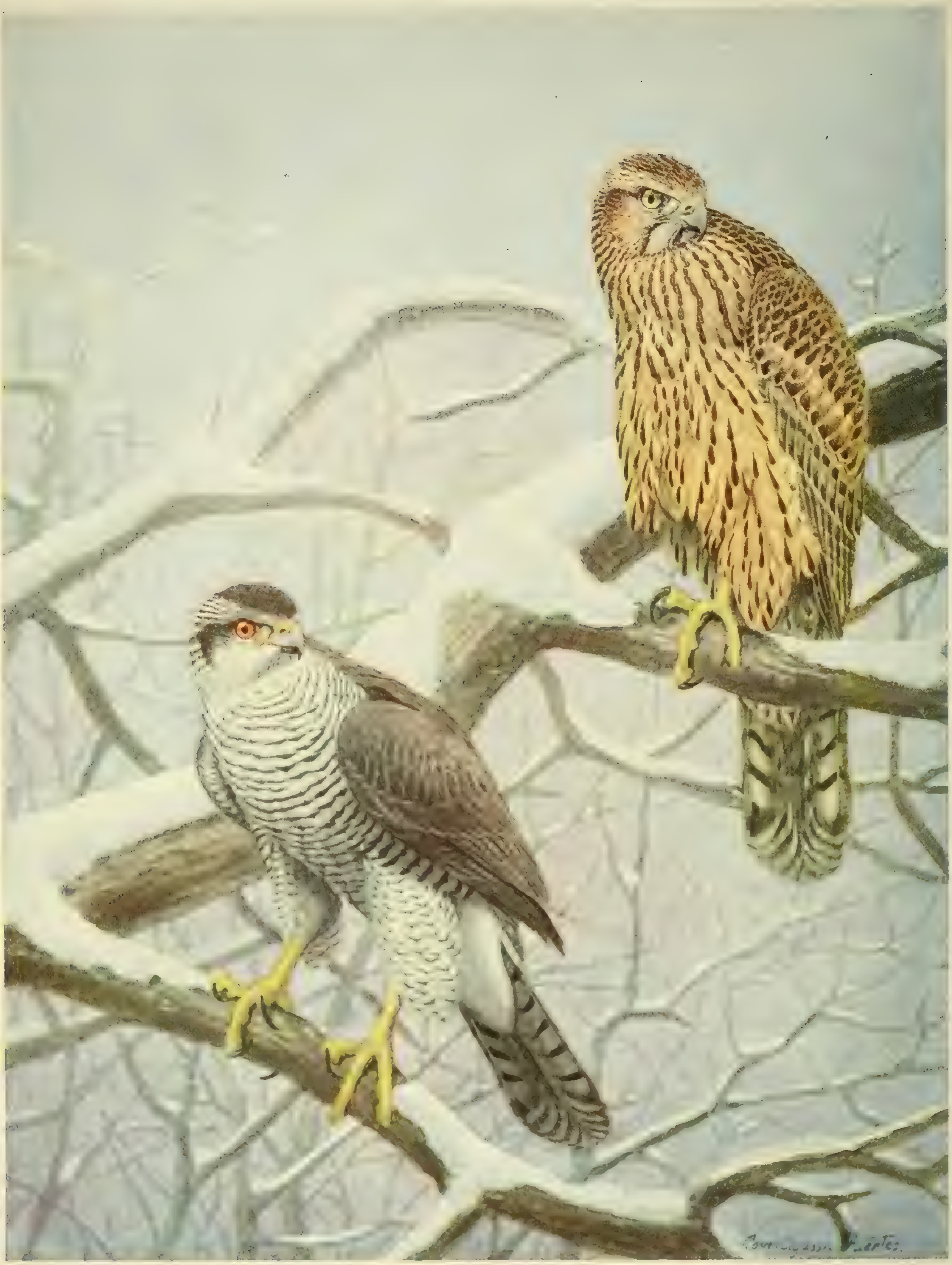
When Knighthood was in Flower the favorite game of every overlord (who alone was entitled to use the Gerfalcon) was the stately heron. Modern falconers seem unable to adapt these splendid northern hawks to present conditions, depending almost wholly upon the native peregrine. But in the fourteenth century a gerfalcon was indeed a kingly gift, and one often employed when the goodwill of a near or distant potentate was particularly desirable. In attacking, the gerfalcon climbs above the heron then "stoops" with great force at her quarry. There is no truth in the legend that the heron, as a means of defense, sometimes impales the descending enemy upon its dagger-like beak.



TIERCEL GENTLE: A HIT ON GROUSE

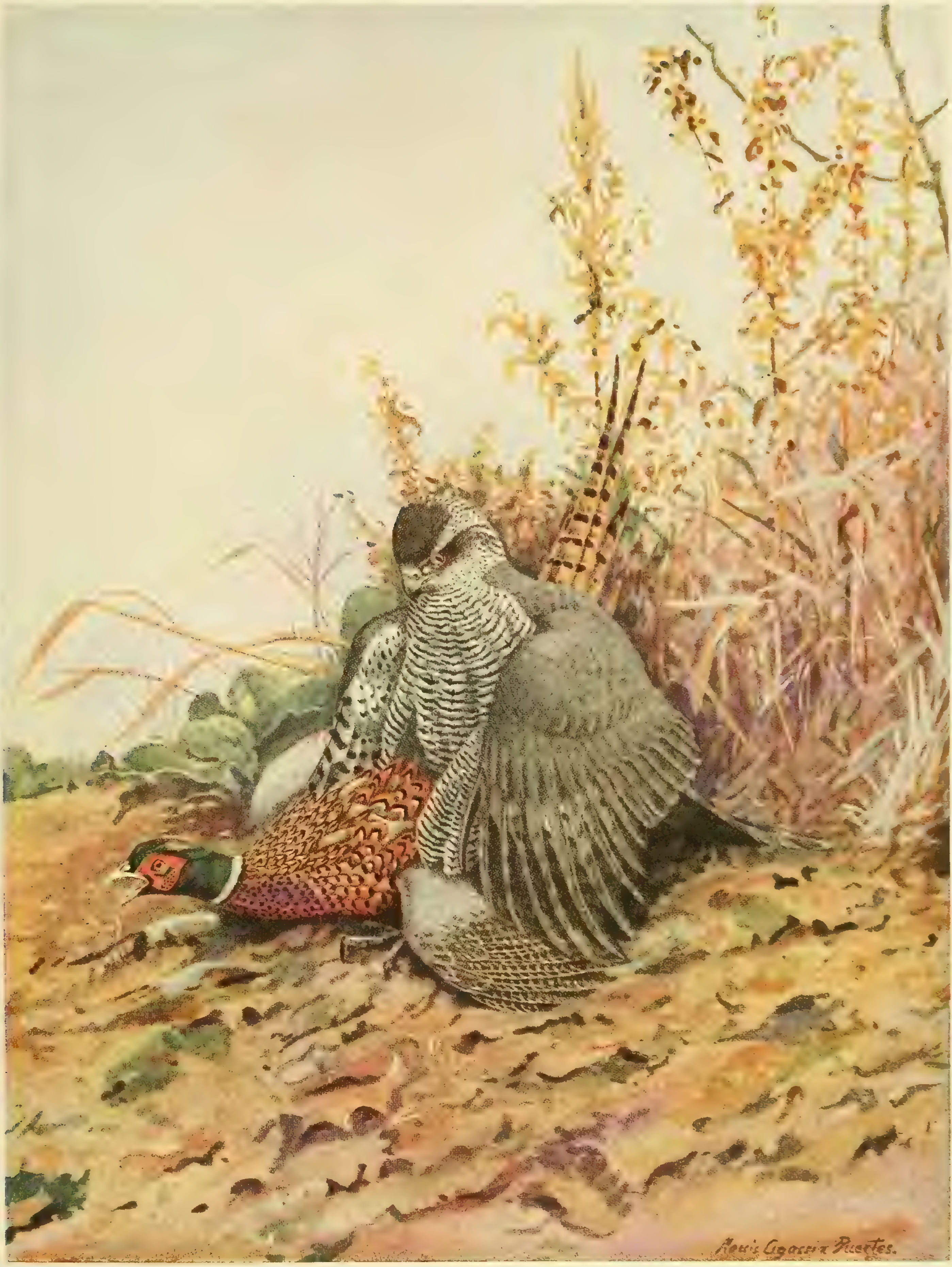
Scotland must receive the credit for perpetuating the "Noble Art" when it had languished over the rest of western Europe, and no quarry is better suited to the capacities of the Peregrine, or "Gentle Falcon," than the Scotch red grouse. But the "gentle" part is forgotten when the hawk makes its thunderbolt assault, diving on its victim from a height or "pitch" of hundreds of feet, usually killing it clean with a single resounding blow of the half-closed fist. A good falcon will never seize or "truss" its quarry.

The term tiercel (meaning the male of various species of falcon) is derived from the Latin *tertius*, according to some because every third bird in the nest is supposed to be a male; according to others because the male is supposed to be a third smaller than the female.



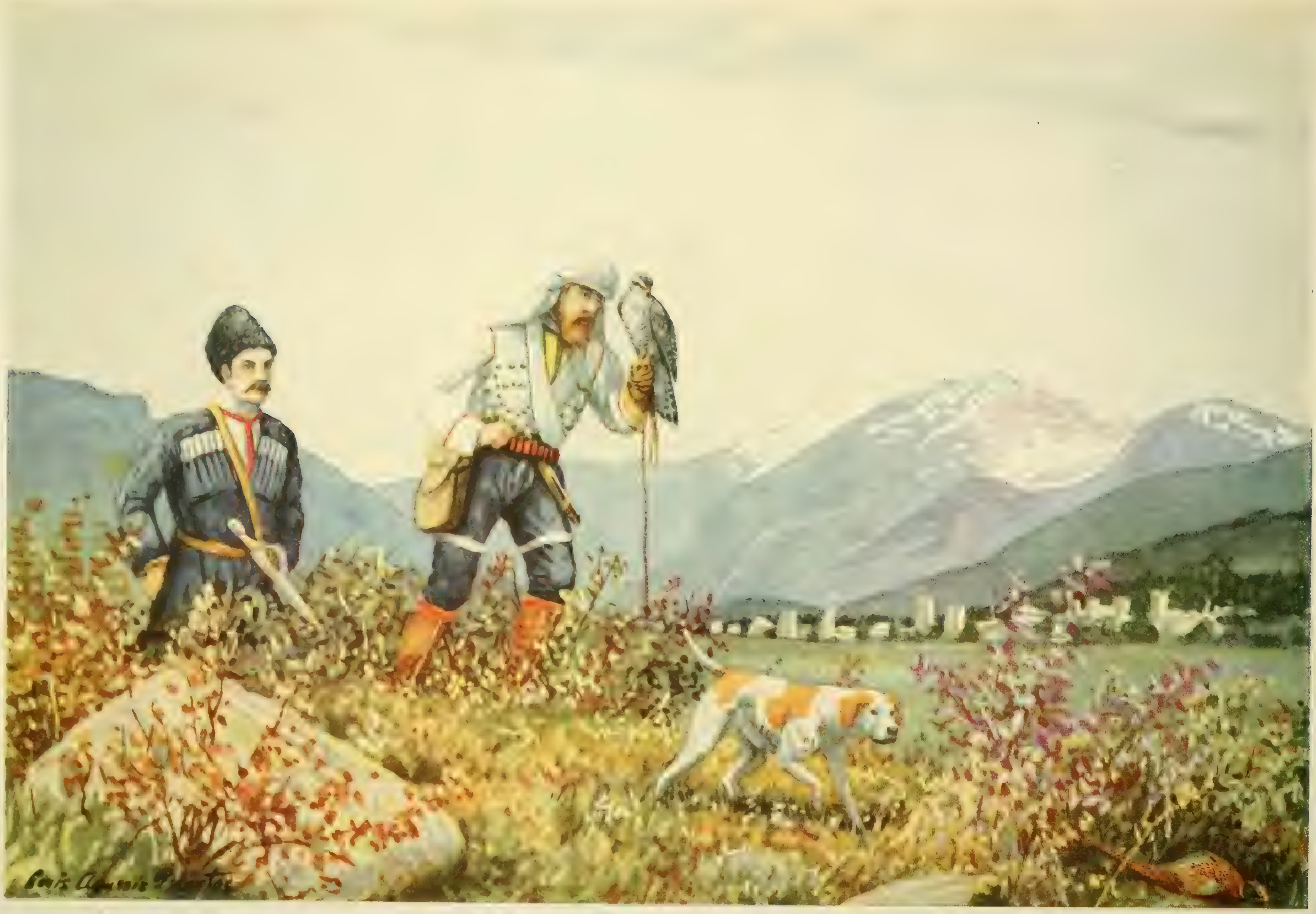
GOSHAWKS: AN ADULT TIERCEL (MALE) AND A YOUNG FEMALE

These are the fiercest and most competent killers of all, and therefore used principally by the "yeomanry" as meat getters. They are in "red" plumage for the first two years of their life, afterward becoming slaty-gray above and barred below. They require careful watching in the mews (the buildings where the hawks are kept), lest they break loose, when they will go systematically about killing every other bird in the loft. They hunt on or near the ground, and, unlike the falcon, come to earth with their quarry. Among all hawks the female is larger and more powerful than the male.


Louis Agassiz Fuertes.

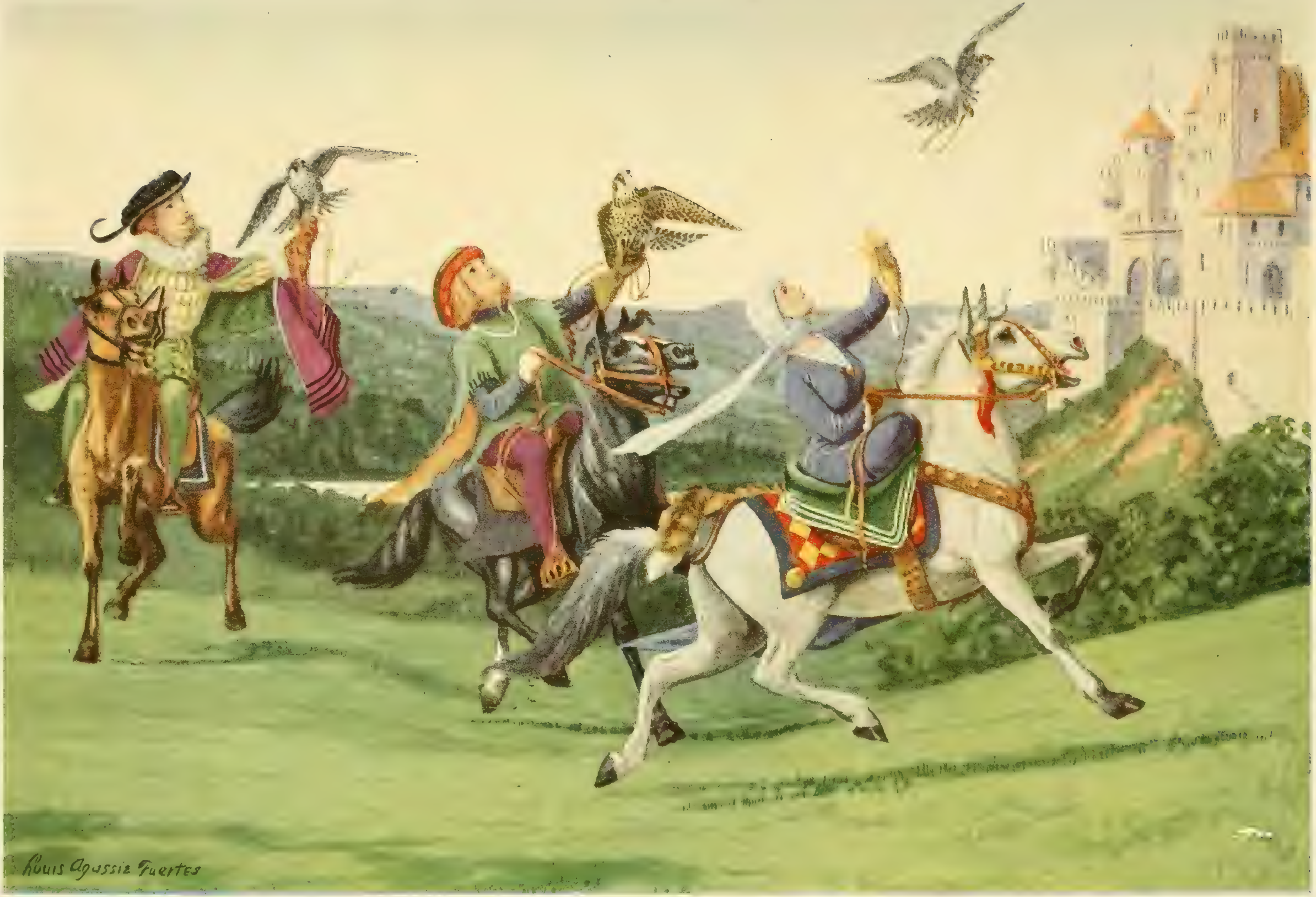
GOSHAWK STRIKING PHEASANT

Unlike the true falcons, the short-winged Goshawk hunts ground-haunting quarry, and trusses (holds) to its victim till the latter ceases to struggle, no matter how fierce and rough the tussle may be. It kills by the vice-like squeeze of its piercing talons, instead of by the terrific blow of the half-open foot, as do the true falcons. "Red Queen," a famous goshawk of the "Old Hawking Club," had an authentic record of sixteen hares out of seventeen struck in a single morning.



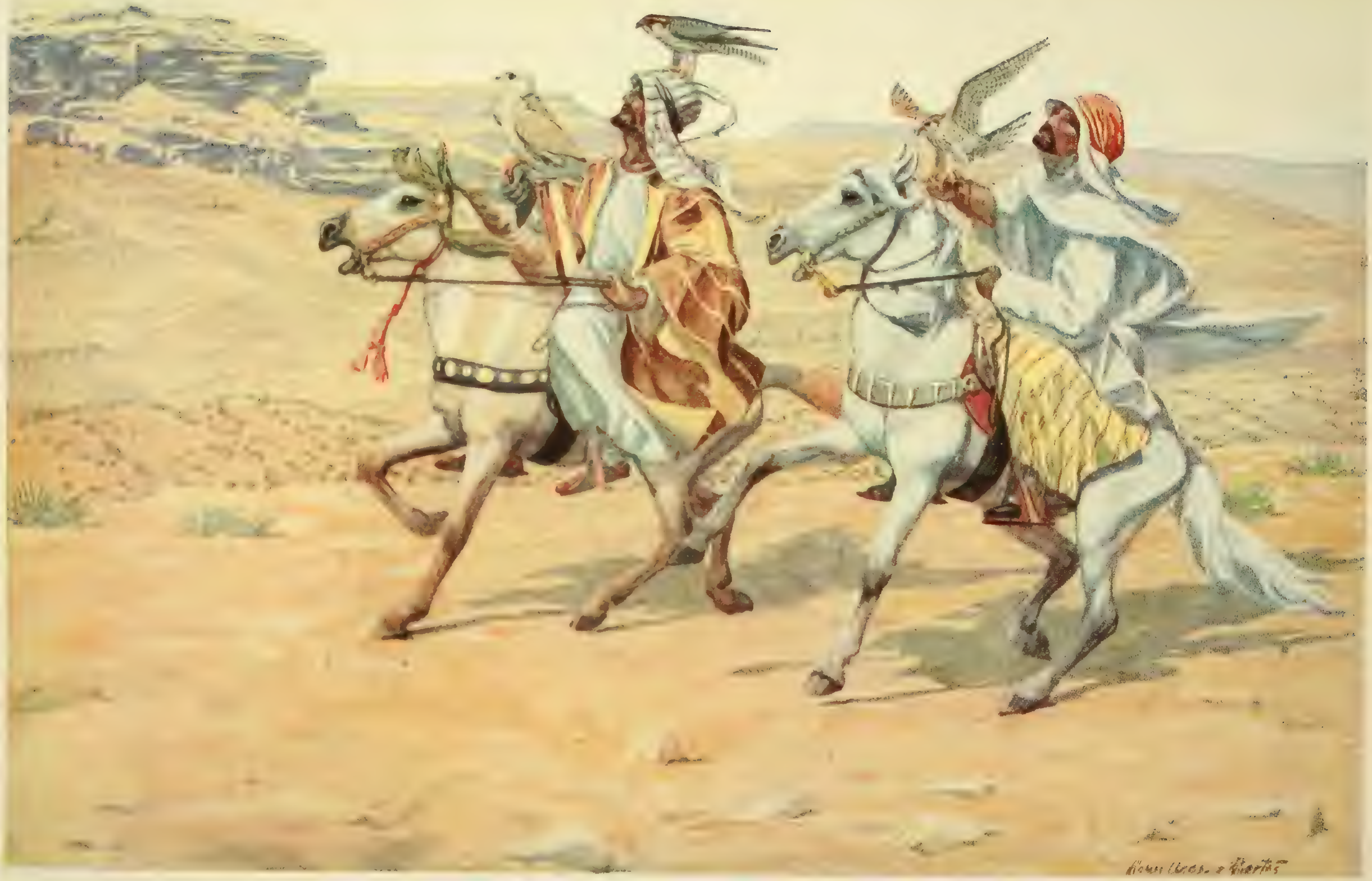
HAWKING IN THE CAUCASUS

All through the Near East, particularly in Georgia and Daghestan, hawks are still used as game-getters. Goshawks are principally employed, being the most prolific killers, and the rough nature of the country making it impossible to follow the long flights of the true falcons. The quarry, mostly pheasant, partridge and hare, is located by dogs, and the goshawk flown from the hunter's wrist as the game is flushed.



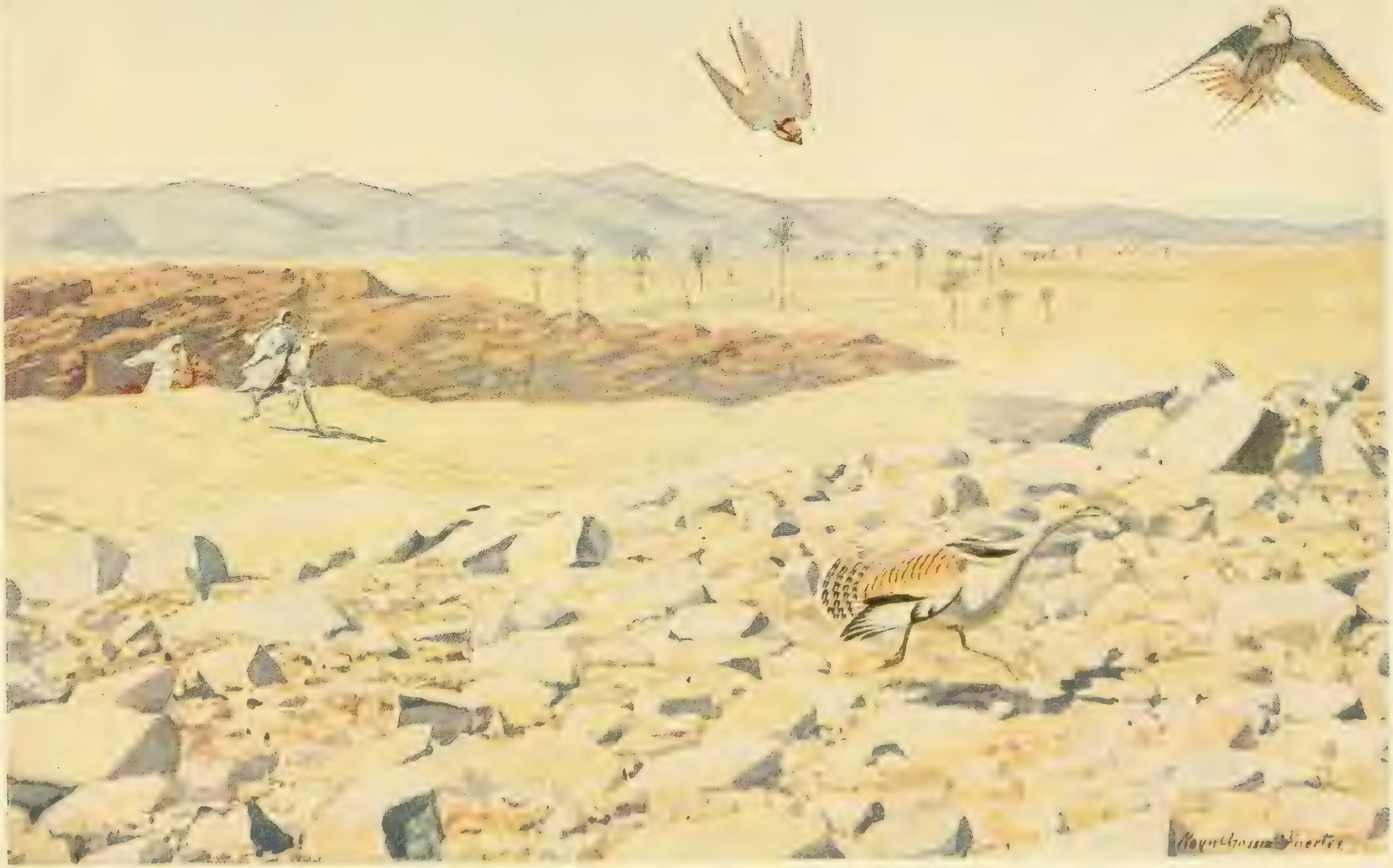
A HAWKING PARTY IN ELIZABETHAN ENGLAND

When firearms came into general use the splendid sport of Falconry, as a general practice, received its death blow. But in Shakespeare's day it was at its height, and the literature of Mediæval England is full of spirited references to "the Sport of Kings." The colorful and picturesque costume of that day must have lent great charm to the scene when prince and princess, knight and lady, squire and dame rode forth, hawk on fist, to fly their favorites at rook or heron.



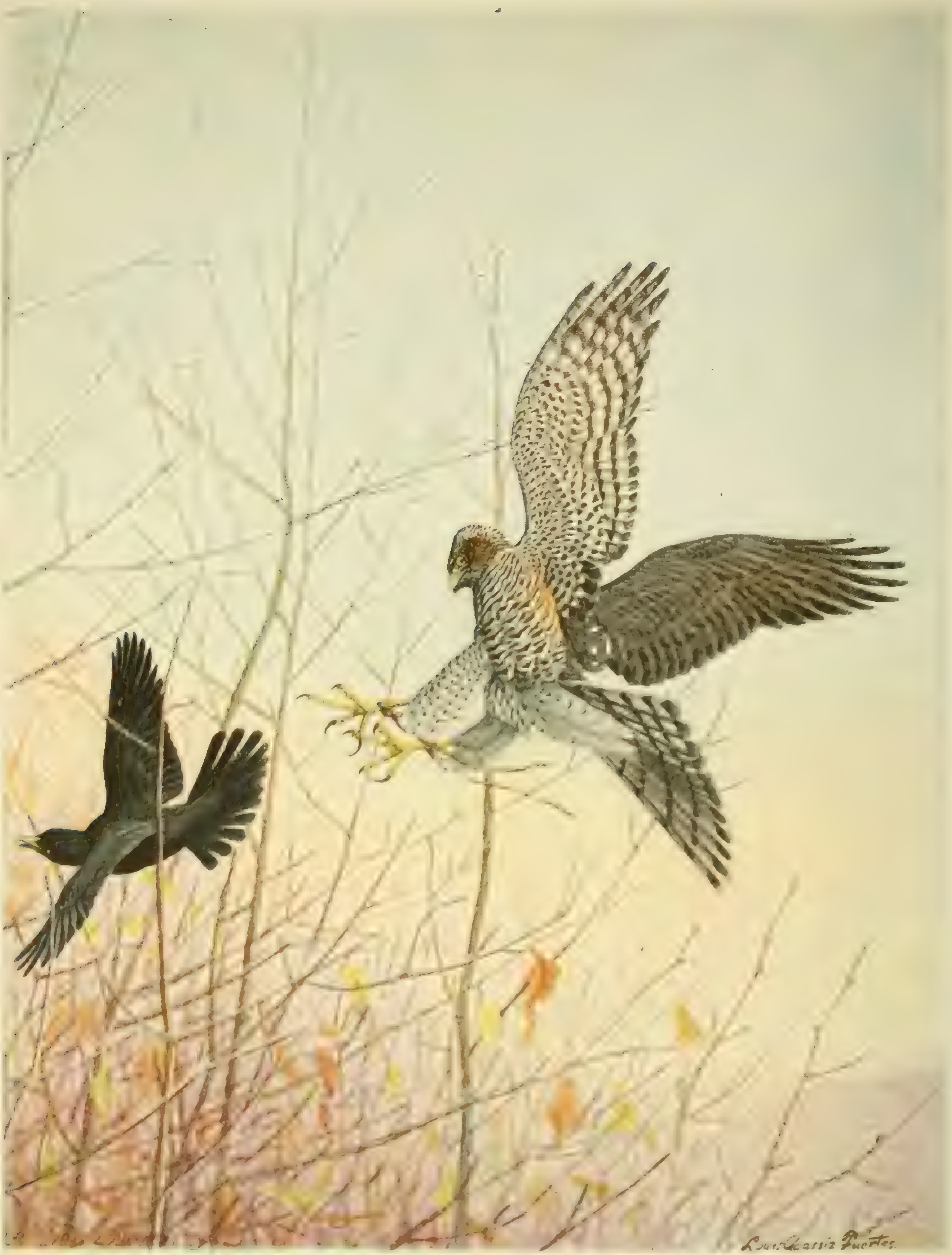
THE START: ARABS SETTING OUT WITH FALCONS TO COURSE GAZELLES

It is difficult to tell just when hawking began. The Arabs, perhaps as early as any other people, trained certain hawks to course the swift desert game. In coursing gazelles three, five or more hawks are used, and the aid of dogs is required for the actual kill, the hawks worrying and bewildering the game until the dogs can catch up. These hawks are always fed from the eye-sockets of a calf's head, and naturally turn to this spot in their living quarry. There is great danger that the hawks may be impaled on the horns of the gazelle.



HUNTING THE BUSTARD WITH FALCONS IN NORTHERN AFRICA

This is one of the most thrilling of all uses of the falcon, for the chase often continues for many miles over the rough desert, where only the stanchest horse can follow. The size and stamina of the quarry, combined with the habit of fleet running instead of flying, make it very hard as well as dangerous for the little lanner falcon to kill, as there is so little space to turn away from the ground after the stroke.



A SPARROWHAWK MAKING A TRY FOR A BLACKBIRD

Although too small and slight for " regular " game, the European Sparrowhawk, which closely resembles our Sharp-shin (see color plate XVI), is uncommonly fierce and courageous, and makes spirited dashes at such quarry as starlings and blackbirds. It is a hedgerow hunter, depending for success upon the intrepidity of its onslaught and the pertinacity with which it follows its victim. It will even run through thick cover after skulking quarry

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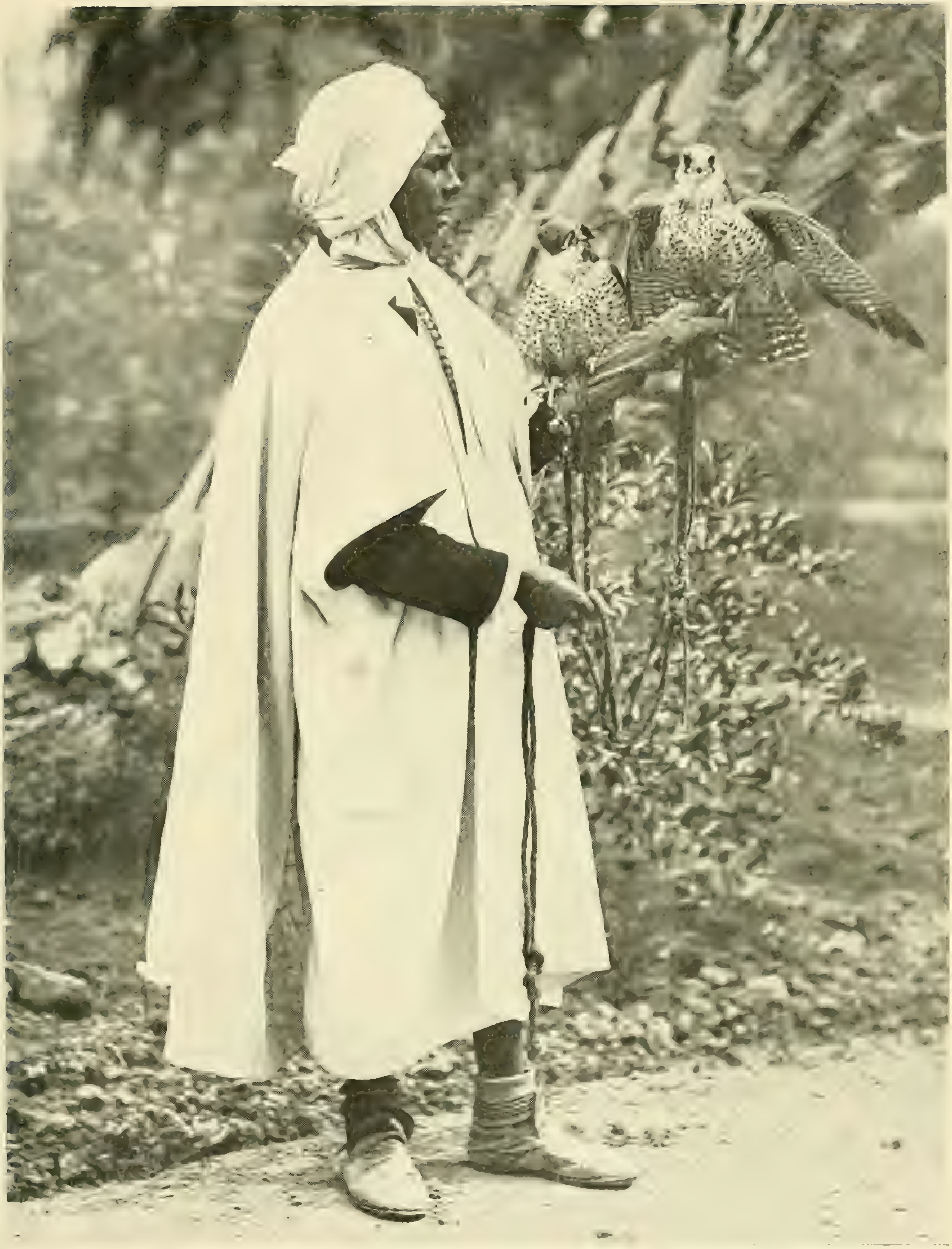
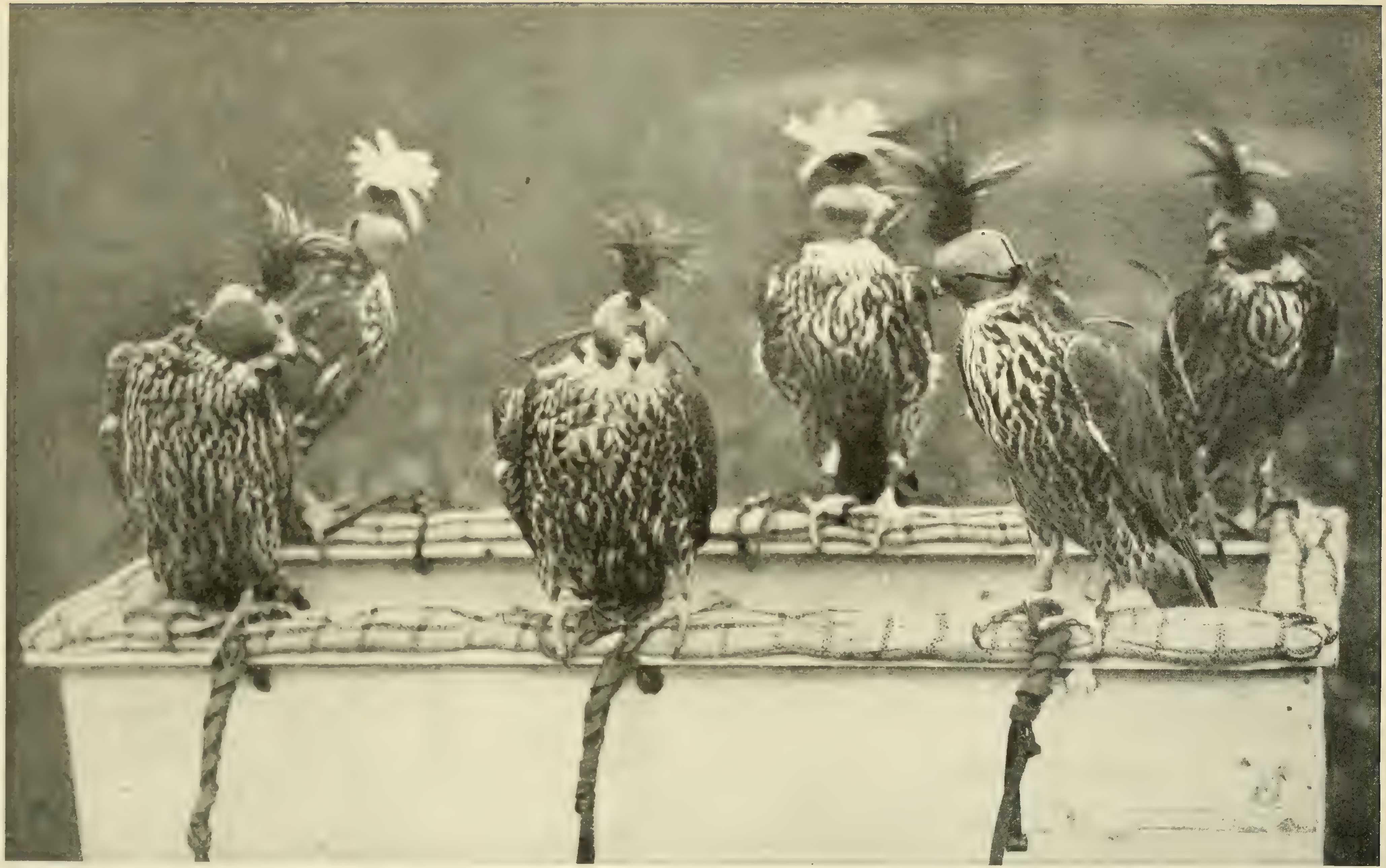


Photograph by L. Ollivier (Paris)

AN ALGERIAN FALCONER: BISKRA, NORTH AFRICA

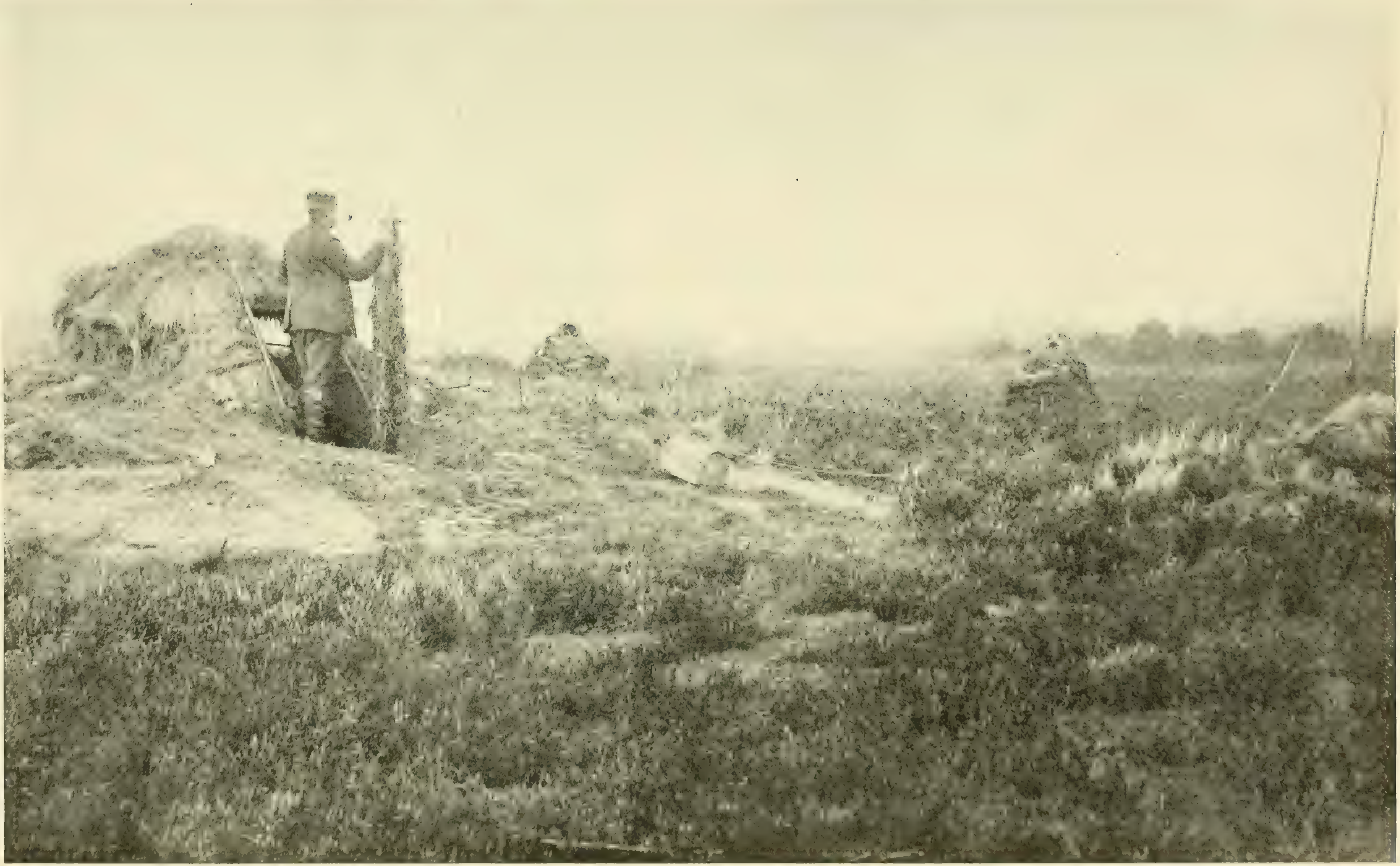
Falconry had its rise in man's early necessity in man's birthplace, Central Asia, where it has thrived almost without interruption ever since. The sport has from immemorial time been followed in India and Northern Africa.



Photograph from Louis Agassiz Fuertes

THREE CAST OF FALCONS, ON THE CADGE, HOODED AND READY FOR A JOURNEY

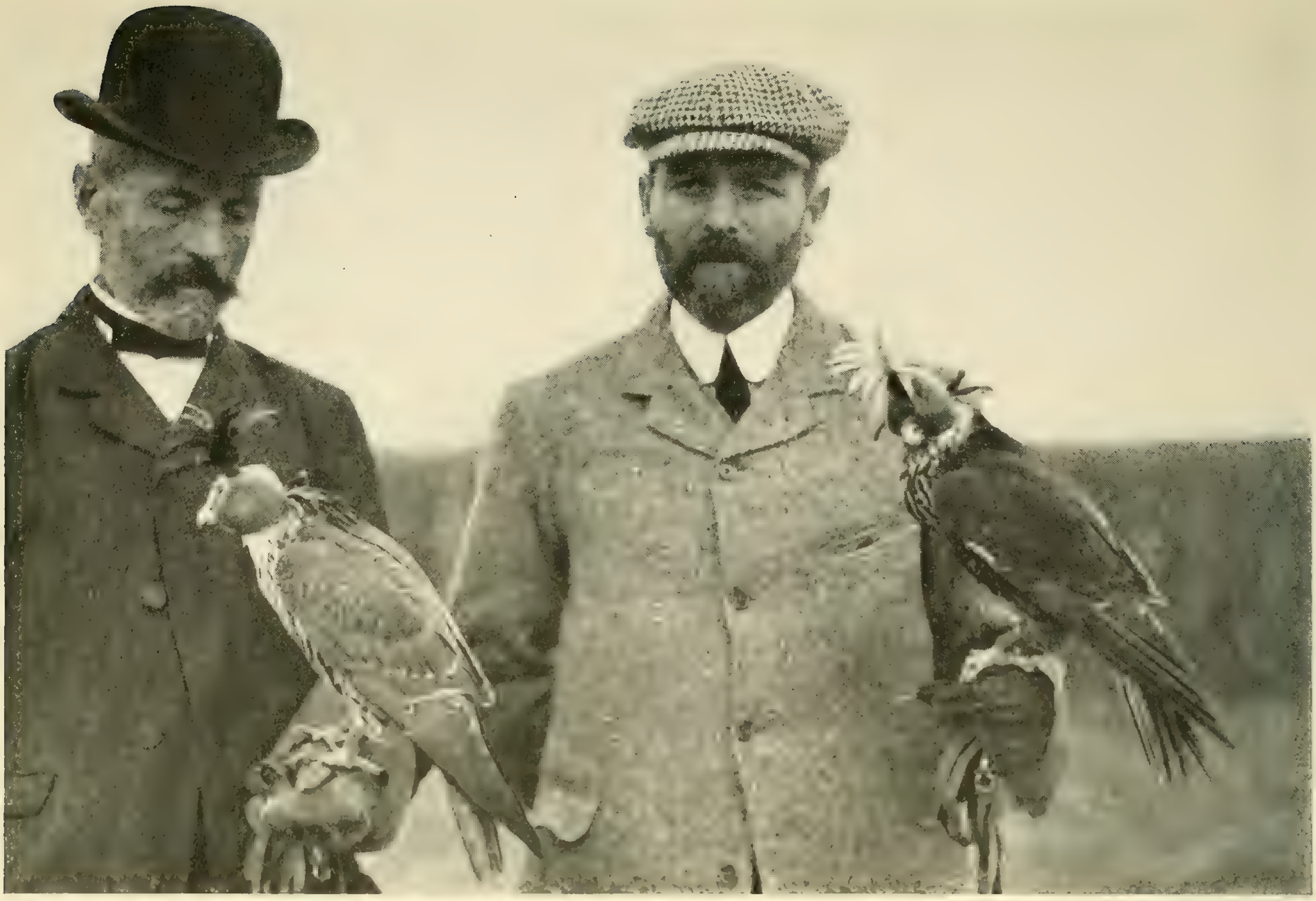
Marco Polo describes the hunt of a ruler of Manchuria in which about 10,000 people were engaged, and over a thousand trained falcons were employed. Everything was done to insure the sumptuous ease of the great man, who was not disturbed until the quarry was overhead, when he slipped his favorite falcon and the hunt was on. Modern falconers insist on seeing all the fun, from the flushing of the game to the stoop and kill.



Photograph from Louis Agassiz Fuertes

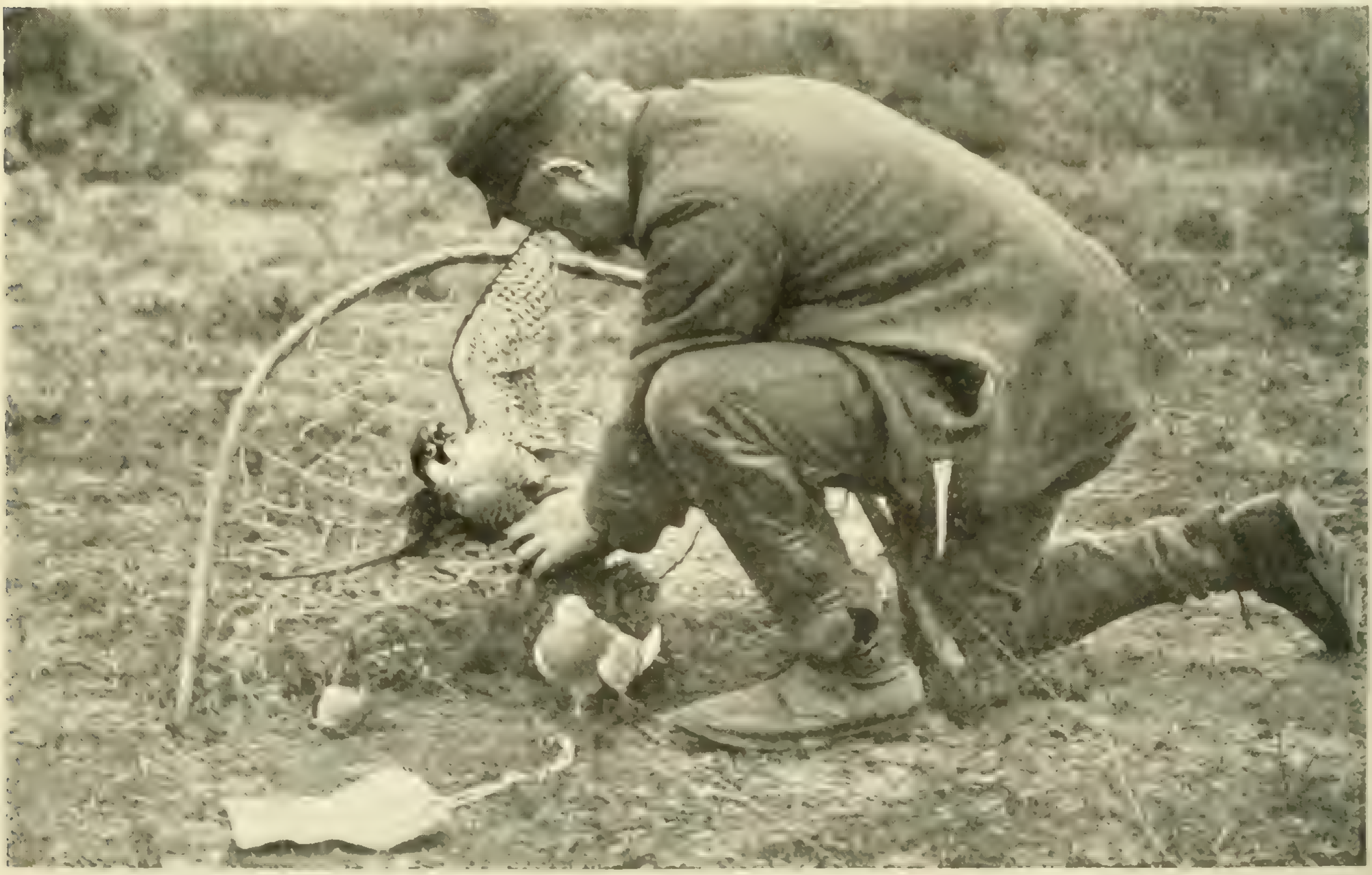
TRAPPING FALCONS AT VALKENSWAARDE, HOLLAND

Here, since the middle ages, falcons have been caught for use all over Europe. The outfit consists of the trapper's blind, from which run four lines: one to each pole, by which a decoy hawk and a "lure" pigeon are brought out of their sod retreats into involuntary action; the third to the "bait" pigeon, bringing it from its box into the open trap-nest; and the fourth to spring the net when the wild hawk has struck. On the sod retreat toward the right sits the captive shrike, which announces the advent of the hawk.



A CAST OF FALCONS ON THE WRIST: HOLLAND

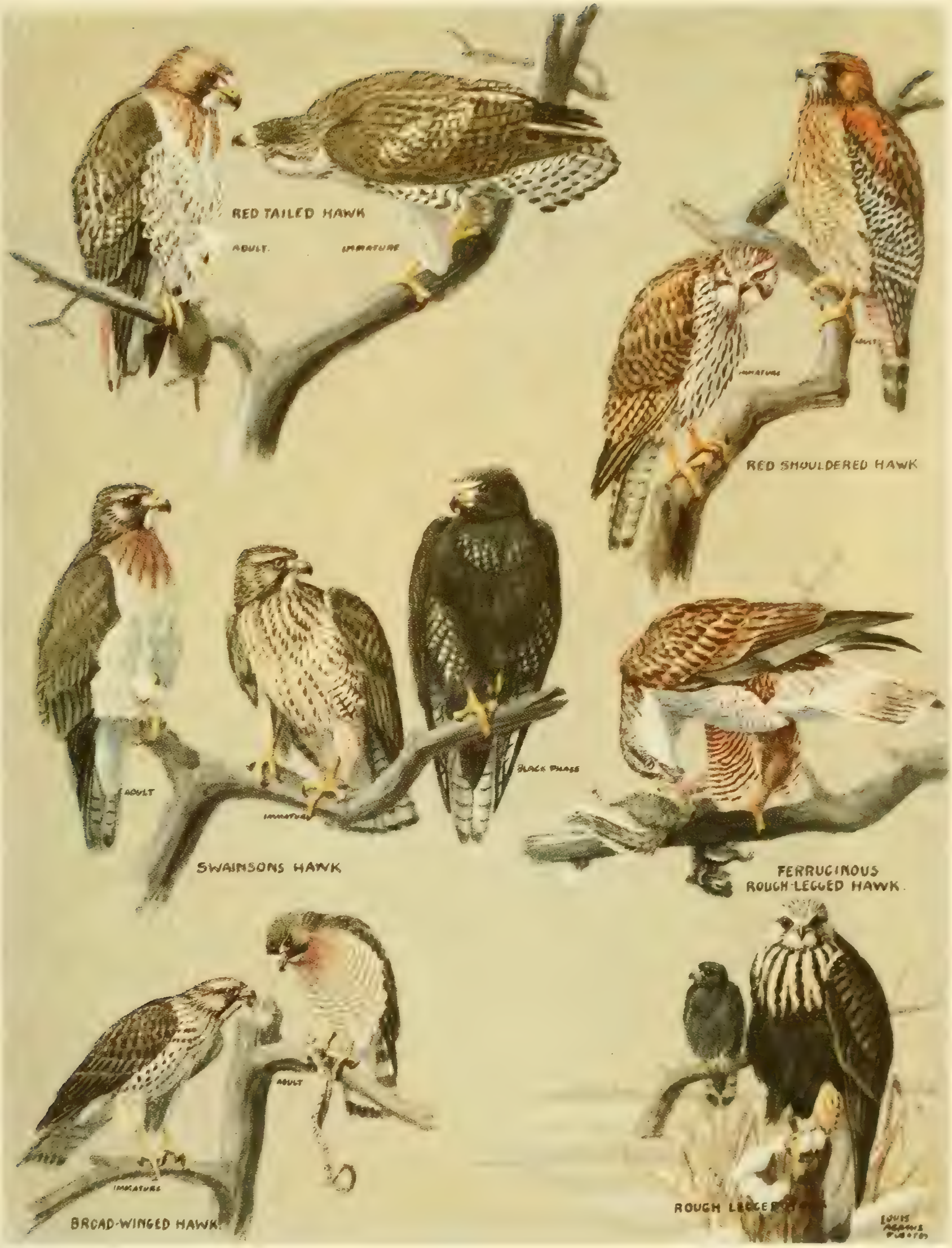
The birds are carried hooded until the game is started. Then the hood is doffed, the leash slipped from the swivel and the falcons cast off, singly, unless the game is large and powerful. The rest lies with the birds.



Photograph from Louis Agassiz Fuertes

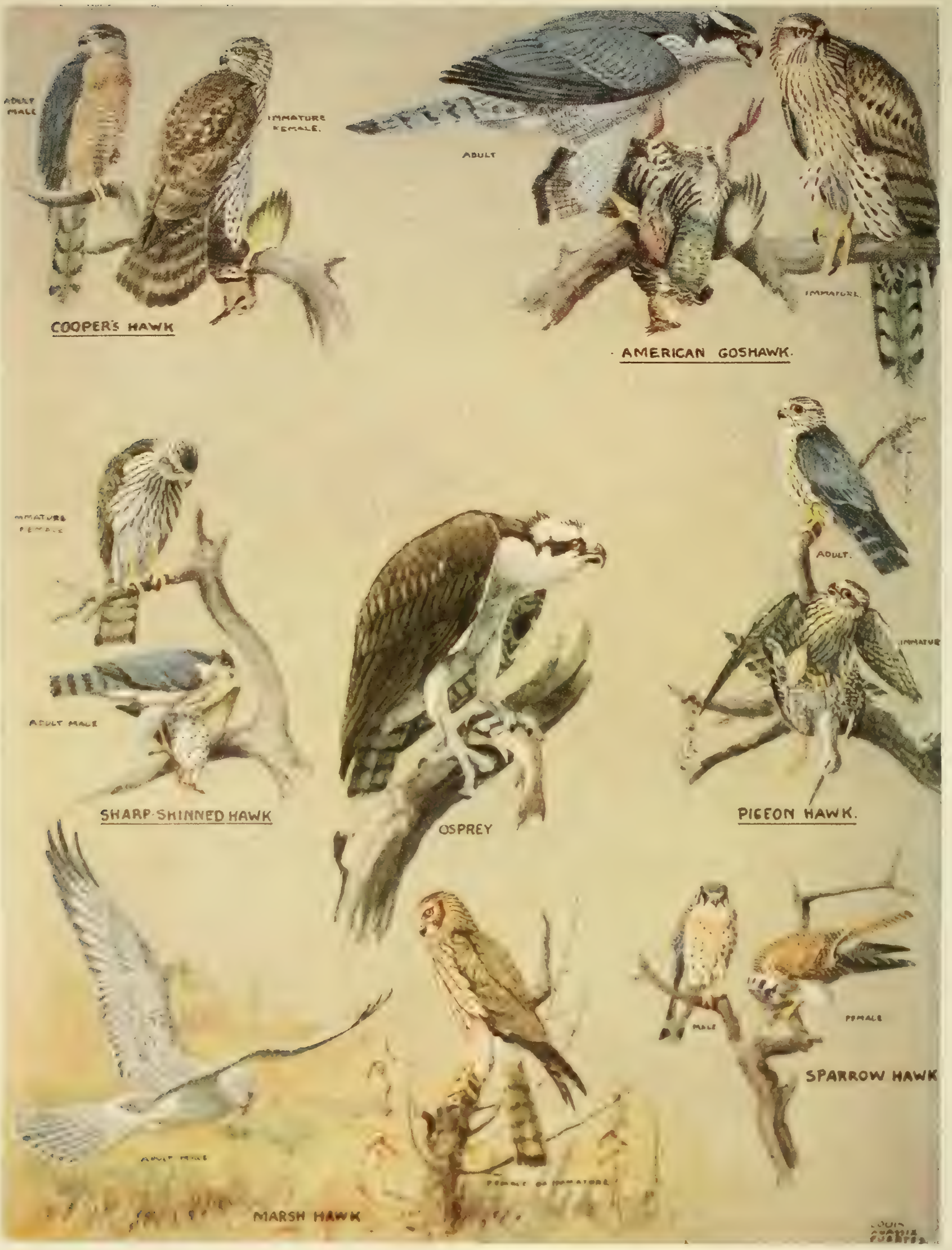
FALCONER TAKING HAGGARD PEREGRINE FROM THE BOW-NET, LURED THITHER BY THE BAIT PIGEON

Nearby is the "sock" into which the hawk will be thrust, while jesses and bell are attached to the legs. Much skill and dexterity are required, for an outraged falcon is no easy thing to handle, and can inflict severe punishment with its great needle-sharp talons. The beak, though a capable weapon, is not used, even in self-defense.



HAWKS THAT ARE THE FRIENDS OF MAN

Large, conspicuous hawks are all of great economic value, being the principal natural check on the hordes of noxious rodents that, if unmolested, would soon render agriculture unprofitable. The large soaring, circling hawks of the open country are not the ones that molest the farmer's poultry, but *are* the ones that hold in check the field-mice, gophers, ground-squirrels, mole-crickets and grasshoppers that annually cost the country many millions of dollars through their depredations on crops, orchards and forage.



ONLY FOUR MEMBERS OF THE HAWK FAMILY ARE OUR ENEMIES

The four hawks whose names are underscored are the ones that give a bad name to the whole hawk family. Of these the Cooper's Hawk is most important because commonest and most widely distributed. The Goshawk, restricted to the Northern wooded region, is terribly destructive to game birds and to poultry. The Sharp-shin, an inveterate bird-killer, is too small to molest poultry, except chicks a few days old. The Pigeon Hawk is not important, being quite rare.

"All is hushed as the rook, a single bird, presumably a strong old cock, comes slowly up. He passes us and is going nicely on when something about the party awakens his suspicions and he gives a sudden swerve that in one second takes him about 150 yards off on a side wind.

"We are not to be done this way, though, and in a moment the head of our party, with falcon on hand, dashes out at a brisk gallop down wind of the rook, which hastens up on wind. But a hundred yards or so is no matter to us with this hawk, and the moment we are fairly down wind of him the old hawk is unhooded and flung off; and the falcon is in hot pursuit of her quarry, rising with each stroke of her powerful wings till she seems to shoot upward like an arrow from the bow.

"The rook has seen her, and is making his way upward at no mean rate; but the pace of the falcon is too much for him, and ere long she is above him. Poising herself for a moment, she comes, with one terrible perpendicular stoop, straight at him.

"It would seem as though nothing could escape; but our rook is equal to the occasion, and with a clever shift he has dodged her attack by a good yard or more.

"WELL DONE, ROOK"

" 'Well done, rook!' but there is clearly now no safety for him in the air, for the falcon has shot up again, with the impetus of her stoop, to a height scarcely inferior to that from which she descended; so, turning his tail to the wind, he makes all possible haste to a small patch of thorns that promises a temporary shelter, having, however, on the way to evade two similar stoops from the hawk, almost as fine as the first.

"Alas for friend rook! On reaching the covert he finds it already occupied by the enemy, in the shape of the excited field, who soon drive him with halloo and crack of whip from his shelter, and compel him again to seek the open. The falcon has, however, strayed a little away; so he starts with might and main to ring, in spiral curves, into the very clouds.

"After him starts the hawk, but soon finds that really good rook, such as this is, can mount nearly as fast as she can.

"Up, up they go, gradually becoming smaller and smaller. Ring above ring does the falcon make, yet without getting above him, till, apparently determined to gain the victory, she starts off into the wind to make one tremendous circle that shall attain her object.

"Steadily into the wind she goes, the rook striving to follow her example, and appearing from below to be flying after the hawk. At length, as she almost completes the outer circumference of her circle, the rook, perhaps feeling his powers exhausted, turns down wind, and, at a great height, makes off as fast as he can go.

"Surely the flight is over, for the falcon is still working away, head to the wind, as hard as she can—in fact, the two birds are flying in opposite directions, half a mile apart. 'Not a bit of it,' say the initiated, who are off down wind as fast as they can ride.

A MAGNIFICENT STOOP, AND VICTORY!

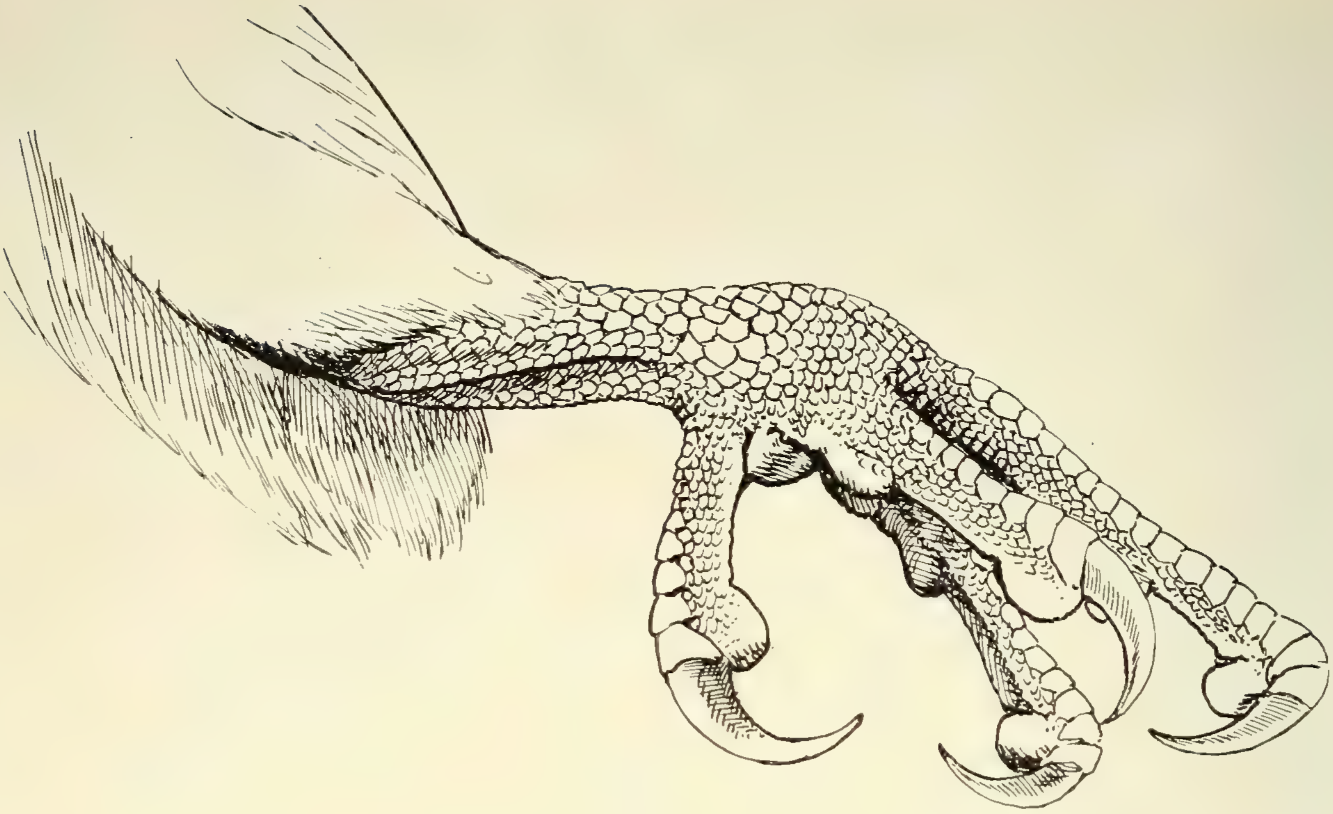
"In another moment you see the falcon come round, and though at such a height she looks no bigger than a swallow, you can see that she is far above the rook, while her pace, slightly descending as she is, is almost that of a bullet. So thinks her quarry, apparently; for, shutting his wings, he tries to drop like a stone into a clump of trees now nearly beneath him.

"Swiftly as he drops, there is a swifter behind him, and down from that terrific height comes the falcon like a thunderbolt. Lord, what a stoop!

"By the powers, she has missed! And now surely he must escape.

"But no. Shooting upward like a rocket, the old falcon puts in one more straight, swift stoop, and the rook is taken just as he enters the sanctuary which he has had his eyes on from the first. Whoo-who-op! A grand ring! a magnificent stoop! a splendid flight! Bravo, 'Bois-le-duc!' "

Among the smaller falcons the merlin, hobby, and kestrel are the only ones now used, and, indeed, the kestrel, being largely a locust and mouse feeder, seems to be rather beyond the skill of the modern trainer, though there are abundant proofs that it was used in medieval times. This is a beautiful and gentle species and



Drawing by Louis Agassiz Fuertes

THE FALCON'S FIST

Falcons kill their prey in full flight, by a terrific blow with the half-closed foot, returning after the strike to pick up the victim (see Color Plate II).

it is a pity it cannot be more profitably used.

TRAINING THE SHORT-WINGED HAWKS

Thus far nothing has been said of the training and hunting of the two short-winged hawks, the goshawk and the sparrowhawk.

Just as the falcons, with their long, narrow wings and compact bodies, are adapted to the chase in the open, with wide maneuvers and great stoops through unbroken space, so these rangy, slim-legged birds, with their short, "broad-fingered" wings and long, sweeping train, are beautifully adapted to work in the tangles and forests, where they naturally live.

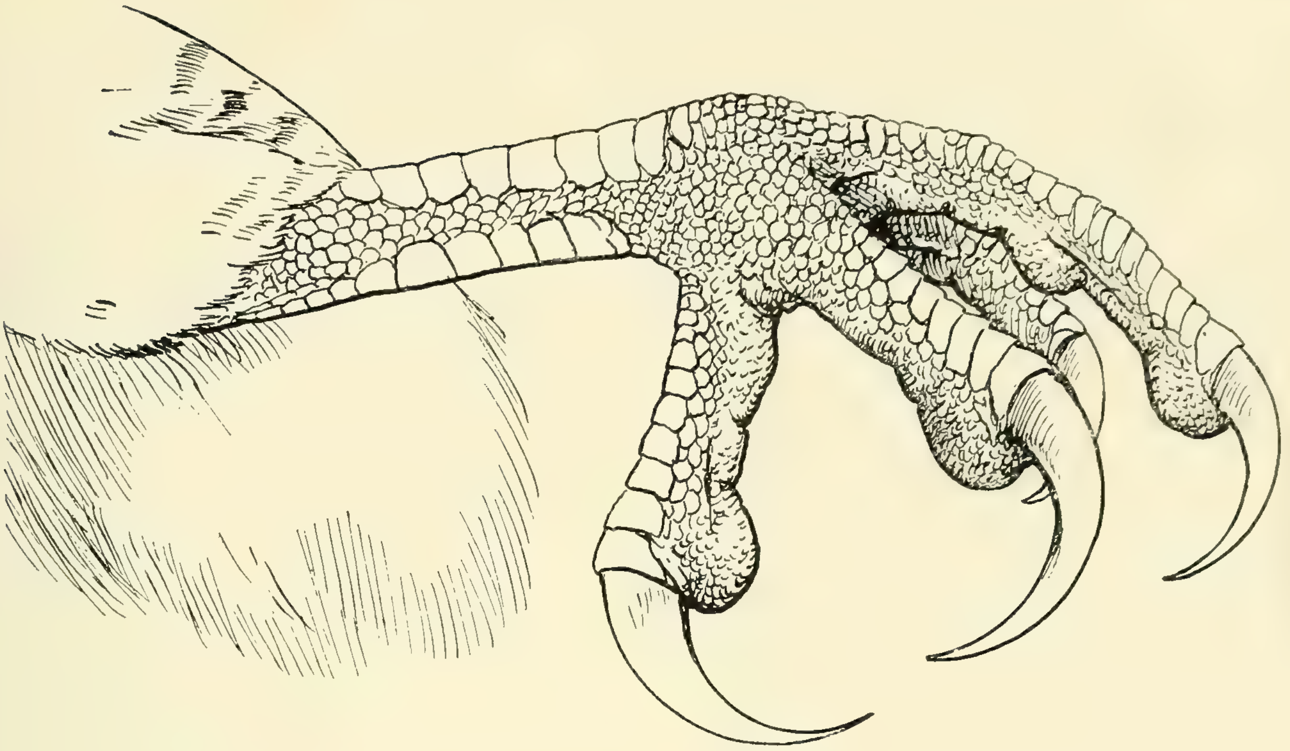
These birds seldom come out into open country unless there is some tempting poultry yard or game preserve where a quick sally is assured of its reward. When such a larder is discovered, however, little peace comes to the owner until the marauder has been brought to earth, for it will take its daily toll until the yard or cover is depleted.

Goshawks and horned owls are generally to be feared in cold winters on all extensive game covers in this country, and they make sad havoc with the work of years when once they infest such a place (see text, page 461).

The goshawk is a very different creature from the falcon, and by its nature and style of hunting is fitted for entirely different work; for the goshawk does not strike its prey in air and return to it after the turn, but pursues it and binds to it at once, whether in air or, as it prefers, on the ground. These hawks have a curious habit, too, of covering their quarry with their outstretched wings and tail until it ceases to struggle.

THE GOSHAWK'S FEET ARE ENGINES OF DEATH

The feet of the goshawk are veritable engines of death, with enormous talons and great strength. Whereas a falcon's foot is more like a fist to deliver a terrible blow, the short-wing's feet are like great ice-tongs with semicircular claws nearly an inch long, which enter the very vitals of the quarry and kill as tough a creature as a rat or a hare in a few seconds and take the life of any bird almost instantly (see drawings on this and the opposite page).



Drawing by Louis Agassiz Fuertes

DRAWING OF THE FOOT OF A GOSHAWK (NATURAL SIZE)

The Goshawk kills its prey by clutching, and driving its great talons into its victim's vitals, not releasing its hold until the quarry ceases to struggle (see Color Plate V and text, page 458).

These hawks are worked along hedgerows or in woods, only being used in open ground on hares, rabbits, or pheasants. In thick cover they perch hard by, watching for the instant the quarry may be put out by dogs or beaters.

The short-wings are very much more intent on their game than are the falcons, and even in a wild state have been known to chase fowls into the farmer's kitchen and kill there. Dr. Fisher records an amusing instance in which a goshawk dashed in and seized a fowl which had that instant been killed by a farmer, dragging it only a few rods before starting to deplume it. In another case, a hawk pursued its quarry through the kitchen of a farm-house into a bedroom and there made its kill under the bed!

While the strikes of this hawk are very hard and impetuous, they are usually short, and do not result in the exhaustion that follows a good flight by a falcon. Thus they may be flown many times in a day, and there is the record of old "Gaiety Gal," who was flown at 17 hares in one morning, trussing to all and killing clean all but the last, which, being exceptionally strong and the hawk naturally weary, got away after a struggle. Sir Henry Boynton's "Red Queen" killed 24 rabbits in one day.

There is something almost devilish about the fury of a goshawk's strike. Her yellow or orange eye, the pupil concentrated to a cold point, fairly burns with ferocity, and the clutch of her awful foot is such that virtually no amount of twisting or somersaulting on the part of the hare or rabbit can dislodge the great piercing hooks.

As an example of the goshawk's single-mindedness when in pursuit of quarry, Lascelles tells of one which drove impetuously downhill at a rabbit. As the quarry leaped four feet in the air to avoid the stroke which grazed it, the hawk turned over and caught it from underneath while in the air, "rolling afterward down a steep bank head over heels, but never leaving go her hold."

"It is not uncommon," continues this observer, "to see a rabbit captured at the mouth of a burrow, and hawk and all disappear under ground; but when she is lifted out, however much she is knocked about, the rabbit is in her foot."

THE SPARROWHAWK HAS MANY ADMIRERS

The sparrowhawk is reclaimed and trained in much the same manner as other hawks, and her tactics are almost exactly those of her big relative. No whit less fierce and bloodthirsty is she, and the blackbird or starling that has put into a hedgerow or thicket has small chance of eluding the cold eye that is quietly watching from some near-by perch for the first stir.

The sparrowhawk has many enthusiastic supporters, and for many reasons is the best fitted for the amateur falconer, as these birds are not costly and small loss attends failure. They may be used on almost all small game and brush birds, and have been used with success on partridge. In England, however, the sparrowhawk is used chiefly on blackbirds and starlings, and while it is in a way small sport, the ingenuity of the quarry and the catlike agility of the little hawk give spice to the chase.

Here, even the tiny male or "muskett" is of use. The chase is over if the hawk makes a true strike; but the quarry is resourceful and nimble and it is frequently very difficult to make the pursued bird fly if it has once succeeded in reaching cover.

I once saw close at hand the tactics of a house-sparrow, which flew chattering within a few inches of my head, hotly pursued by a male sharp-shin, the American miniature of the sparrowhawk. The sparrow flew directly into the densest twiggery of an old lilac clump, and there continued to flutter and chatter. Almost instantly the hawk, wings and tail thrown back and lean, sharp talons extended, struck the bush with a thwack, trying to drive through to the terrified (but still resourceful) sparrow. Failing, the hawk, entirely ignoring me, turned back again on its course, flew past me to a distance of perhaps a hundred feet, wheeled, and again drove at the bush as if thrown from a catapult.

This occurred four times in rapid succession before the hawk decided it was of no use and continued on its way philosophically. After a very short time the sparrow, too, resumed its normal state of mind and joined a group of others in the road near by.

From the foregoing it will be seen that falconry had its rise through man's early necessity, in man's birthplace, central Asia, where it has thrived almost without interruption ever since; that later it became the sport of the more privileged classes, attained a high pitch of popularity in medieval times, and has since fallen, as the result of many contributing causes, to a point where it is costly and extremely difficult to maintain.

It is not too much to suppose, however, that there will always be those who have the means and the desire to keep alive one of the most beautiful and romantic sports that man has ever devised. Fortunately, there is plenty of colorful literature on the subject from the days of chivalry and there are several practical books by later-day devotees of the art.

It is, perhaps, not too much to venture the belief that now, after the war that has so completely occupied the minds and lives of the civilized world is over, we shall swing back to some of the less serious pursuits that we formerly enjoyed, and that among these falconry may undergo a real revival.

AMERICAN BIRDS OF PREY—A REVIEW OF THEIR VALUE

IT IS not always easy to cast up an exact balance to show at a glance just what value we should attach to any given bird or animal, and the difficulty becomes much greater as the element of prejudice or chance personal observation complicates the verdict which dispassionate research determines for any given species.

The prejudice against all birds of prey is so general that it is well nigh impossible to convince any one who has once seen a hawk steal a chicken that only a few kinds have this habit, and that all the rest deserve the most careful protection. This fact has been admirably set forth, however, in that now rare work, published in 1893 by the Bureau of Biological Survey, Dr. A. K. Fisher's "Hawks and Owls of the United States." Much of the specific information in the present article has been drawn from that authoritative source.

For many years the field agents of the

Biological Survey have been instructed to send to the Bureau the crops and stomachs of all the birds and animals they collect, that their food habits may be studied without favor or prejudice. As a result of this study, the balance in favor of the American birds of prey has been shown to be an overwhelming one. No similar natural check exists against the hordes of destructive and rapidly multiplying field-mice, gophers, wood-rats, ground-squirrels, and moles. Many persecuted species of birds feed their ravenous young almost exclusively on those pests of our grazing and grain regions, the grasshoppers, locusts, and mole-crickets.

It cannot be denied, nor is it my intention to palliate the charge, that certain hawks and owls are villainous destroyers of poultry, game, and beneficial birds. Let it be said here in parentheses, however, that man's own self-introduced pet, the cat, undoubtedly kills as many little chickens and vastly more beneficial and desirable birds than do all the birds of prey in America, many times over.

Virtually all the damage of which the opponents of our birds of prey complain is done by five kinds of hawk and one owl. The number of birds and fowls killed by the remaining eleven common hawks and five owls is so insignificant as to be comparatively of no importance.

The purpose of this study is not to cover in detail the whole performance of the entire list of American raptorial birds, and not more than two-thirds of the species are mentioned. Those that are so rare or that dwell in such remote or uninhabitable regions as seldom to fall under observation are omitted, as the family is, at best, a difficult one to describe or treat in a simple and lucid way. This is, of course, the reason for the present confusion in the minds of all except real students of ornithology. Still, the injustice and folly of persecuting a valuable family of birds for the misdeeds of less than a fourth of its number is so preposterous that another attempt to clear the situation is justifiable.

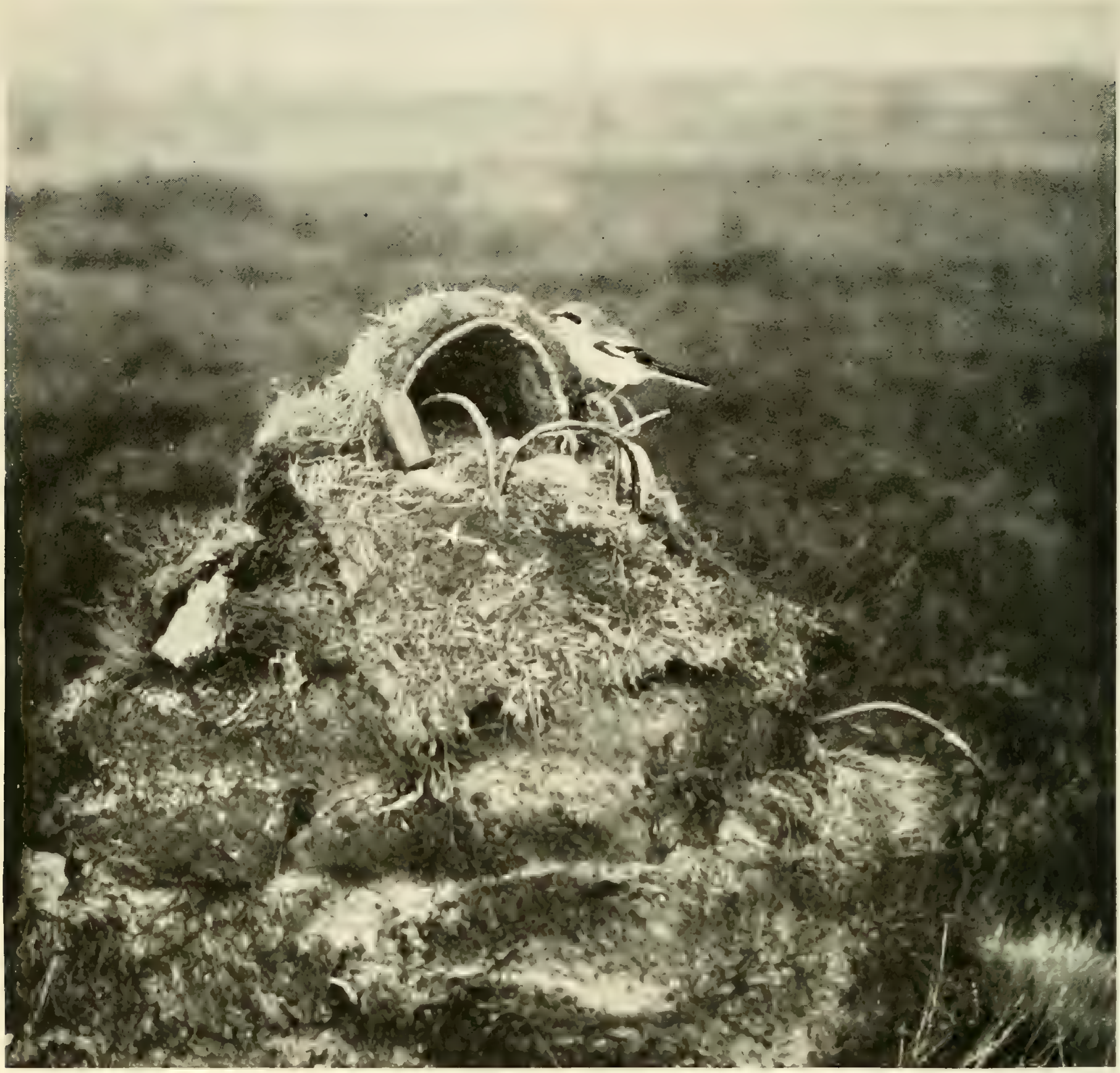
THE DESTRUCTIVE SPECIES (SEE COLOR PLATE XVI)

Among hawks, the guilt for poultry, game, and bird slaughter practically falls on two rather small groups, most members of both groups being among the comparatively rare hawks. The whole genus *Accipiter*, consisting of the Goshawk, Cooper's Hawk, and Sharp-shinned Hawk, are savage, bloodthirsty, and cold-hearted slaughterers, and are responsible in large measure for the anathema that is the portion of all hawks. Of these the Goshawk (*A. atricapillus*) is at once the largest and most destructive. It inhabits only the northern wooded portions of America, coming south in winter to a line extending from Virginia to central California, and farther south in the mountains.

This intrepid bird has frequently been known to chase a fowl into a farm-house and make its kill in an inner room (see page 459). It is a forest hawk and is seldom seen far from the cover of woods. It feeds on birds in preference to all other food, with rabbits as second choice. On northern game preserves it is coming to be a grave nuisance and has seriously menaced the small remaining numbers of Heath hens on Marthas Vineyard. Its rarity over most of the country is its one redeeming feature, unless we can admire its intrepid courage and its great beauty, ignoring its destructiveness.

The Cooper's Hawk (*A. cooperi*) is the most important species as a destroyer of game and poultry. It is a common species everywhere in North America, living in the woods, whence it makes short, swift sallies, returning immediately with its prey. It is seldom apprehended at work and is known chiefly by its accomplished depredations. It is a bold, cunning, and destructive hawk, and is, more than any other species, responsible for the work which has given all hawks a bad name. While most of its daily kill is among the birds of the forest, it is a serious nuisance on the farm, taking toll of young chickens, ducks, and pigeons, but being hardly powerful enough to tackle successfully the grown birds.

This hawk can usually be told by its flight, which is accomplished by three or four sharp flaps and a short sail, repeated as long as it is in sight. When it soars, its circles are small, and the long tail and rounded wings give it a totally different appearance from the "soaring hawks" of the red-tail and red-shoulder type. It is almost the exact counterpart



Photograph from Louis Agassiz Fuertes

THE SHRIKE ON HIS LOOKOUT

His business is to espy the passing falcon afar, and by his excitement and clamor to inform the trapper of the hawk's approach (see text, page 435).

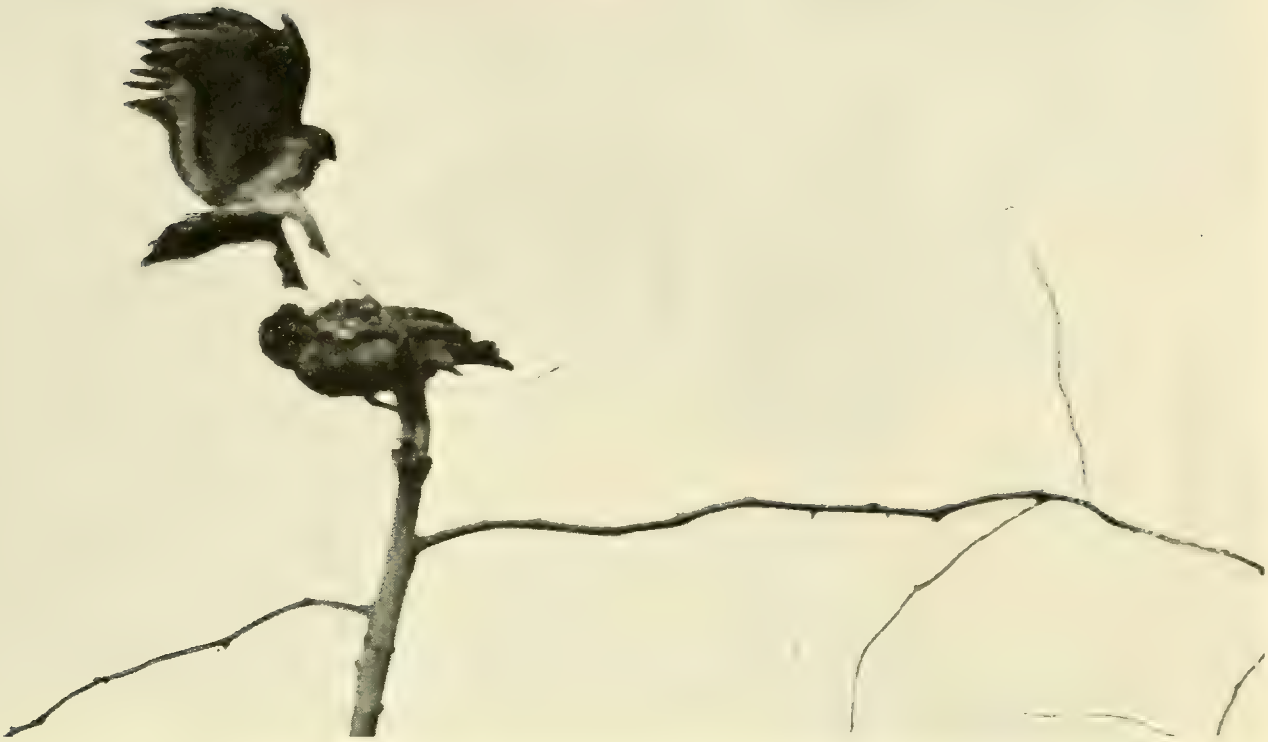
of the smaller Sharpshin, whose habits are equally destructive, but the quarry is smaller, in keeping with the size of the bird.

THE BIRD-KILLING FALCONS ARE NOT COMMON

The long-winged true falcons, which include the Duck Hawk or Peregrine, Prairie Falcon, and Pigeon Hawk, as well as the powerful Gerfalcons of the far north, are all great bird-killers, and it is fortunate that they are nowhere common. These splendid birds all kill on the wing, ignoring sitting prey, and while we must admire the skill, speed, and grace with which they strike and the nobility of their courage, it is true that they do much damage on game covers and preserves, appearing in numbers when game becomes abundant.

The Gerfalcons are too rare to be economically important, but the Duck Hawk is found in small numbers all over America and must be considered an undesirable bird. It can take care of itself, however, rarely falling to the gun and avoiding traps with uncanny skill.

In the more arid portions and in the mountains of the West the pale-brown Prairie Falcon is not rare. This species is less partial to water and feeds exten-



Photograph by Howard H. Cleaves

A RED-SHOULDERED HAWK PHOTOGRAPHED AT THE MOMENT OF ITS STRIKE

Note the phenomenal reach of leg of this bird of prey, a species widely distributed and commonly known as the "Henhawk." The name does it an injustice, for it deserves to be encouraged and protected as an enemy of rodents and destructive insects.

sively on desert quail, jays, and other birds of its inhospitable habitat.

The Pigeon Hawk is really much like a tiny peregrine. It can catch the fleet and elusive sandpipers and plover along shore and is usually encountered following the migrating flocks in spring and fall. This little falcon varies its diet and improves its record by consuming large numbers of crickets, grasshoppers and beetles, but it is a willing and capable ogre when song birds abound, and one seldom comes to hand that has not plenty of evidence against it in its crop.

Among the owls, the Great Horned, or "Cat Owl," does practically all the damage for the family. Big, powerful, aggressive, and fearless, he finds no difficulty in helping himself to the farmer's poultry whenever he feels like it, when allowed to roost outside. A muskrat trap, set baited or bare on a convenient perch near the chicken yard, is a cruel but practical way of determining who has been thieving, though sometimes a Barred Owl, ratting around the barns, falls victim to this method.

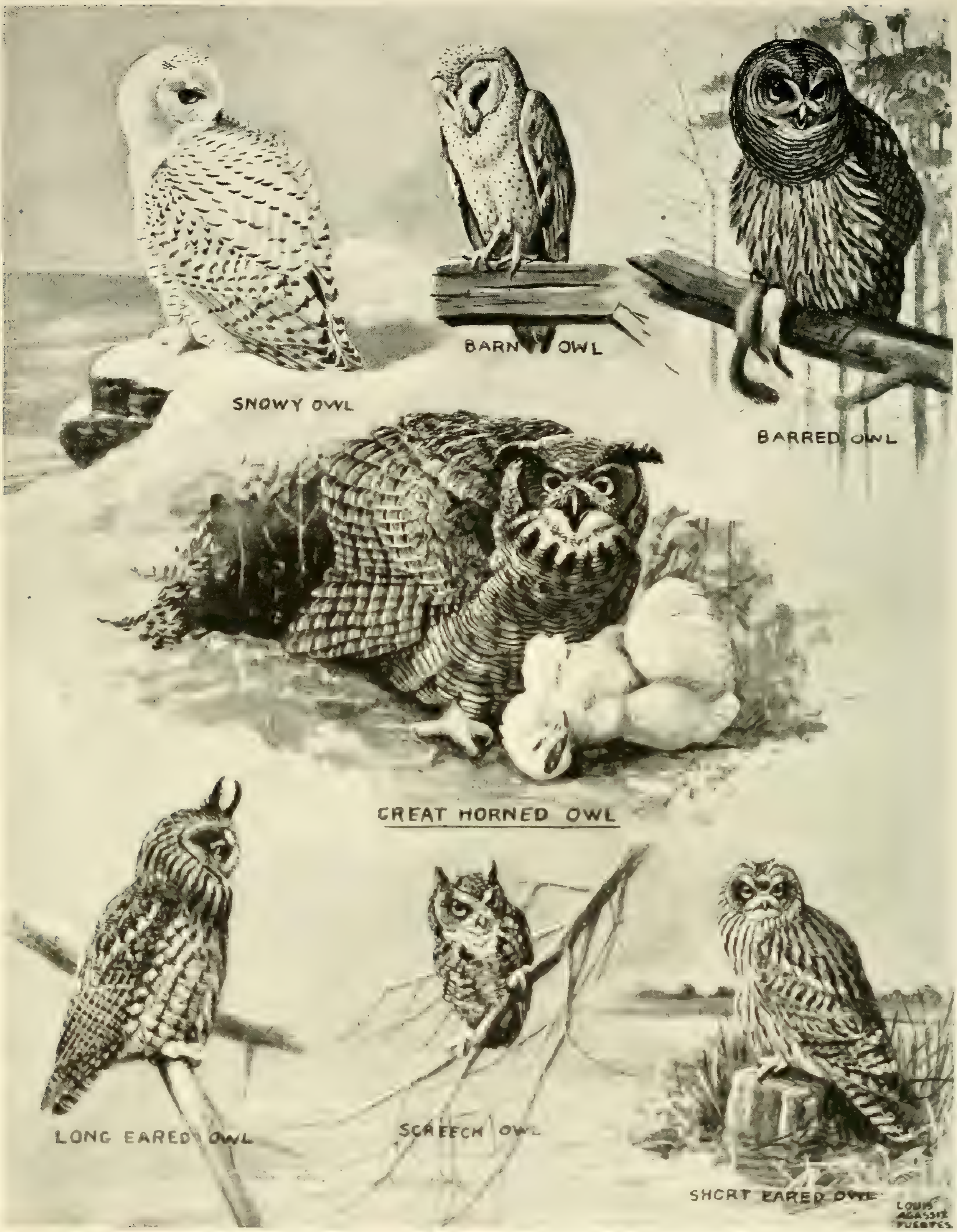
These, then, are the real culprits, if placed on a profit-and-loss basis. The beneficial species outnumbers those on the "black list."

THE BENEFICIAL SPECIES (SEE COLOR PLATE XV)

By far the most important group of rodent-killing birds is the very group to which we have mistakenly given the common name of "Henhawk" and "Chicken Hawk," a most unfortunate error and one most difficult to undo.

It may be stated broadly that the big, conspicuous hawks we see sitting, eagle-like, on tall snags above the green of the woods, or in exposed positions from which to view a large area, or sailing in broad, majestic circles high in the summer sky, are not the ones we may blame for our losses, but *are* the ones we have to thank for holding in check the vast and all-but-overwhelming army of field-mice and other destructive mammals which keep agriculture near to the unprofitable point. These pests are difficult and very expensive to fight by artificial means, and the soaring hawks are their one great and efficient enemy.

Next come all the owls except the Great Horned, which, indeed, must have



From a painting by Louis Agassiz Fuertes

OF THE SEVEN OWLS ORDINARILY ENCOUNTERED IN THE UNITED STATES, THE ONLY ONE THAT DOES MORE HARM THAN GOOD IS THE GREAT HORNED

While most of the others occasionally kill a bird, they are, as a family, decidedly helpful to man, killing vast quantities of mice, rats, gophers, and squirrels. They see by day just as well as other birds.

some credit, as he, too, kills his full share, but in addition to a diet of valuable prey.

Of the *Buteos,* or "Soaring Hawks," the big Red-tail is the commonest and most widely diffused, and consequently the most important. Almost universally dubbed "Henhawk," this valuable species is universally persecuted and shot on sight.

Let us take the summary of Dr. Fisher's examinations of 562 stomaches of Red-tails from all over the United States. Of these, 89 were empty, leaving 473 which carried evidence. Of these, 54 contained poultry or game, 278 contained mice, 131 other mammals (28 species of destructive mammals), 37 batrachians or reptiles, 47 insects, 8 crabs, and 13 offal.

If a Red-tail is *caught in the act* of killing poultry it should be shot, as it "has the habit." The above record shows plainly, however, that the preponderance of evidence is vastly in favor of the species, whose size and appetite make it a most effective and valuable ally of the farmer in his fight against the mice and rats that menace his labors.

All over the West another large and conspicuous hawk is found, which is a great killer of vermin, particularly of small rodents. This is Swainson's Hawk, whose record is absolutely clean, its whole food being divided about equally between small mammals and insects.

THE RED-SHOULDER SHOULD BE ENCOURAGED

Another very common and widely distributed "Henhawk" is the Red-shoulder. This bird has an even better record than the Red-tails. Some 200 examined revealed only 3 which had eaten poultry, 12 small birds, *142 mice and other mammals,* 92 insects, and a number with miscellaneous food.

Mr. Alden Loring, who watched a pair of this species that nested near a poultry farm, says: "The pair reared their young for two years about 50 rods from a poultry farm containing 800 young chickens and 400 ducks, and the keeper told me he had never seen the hawks attempt to catch one." This hawk deserves to be encouraged to the utmost, and both it and the Red-tail should be relieved of the false title by which they are so generally known and designated, either by their proper names or as "Mousehawk," and accordingly treated.

The Broad-wing, the small member of this group, does not often fall into the hands of farmers and gunners, as it is a forest hawk that seldom leaves the shade and shelter of the woods. Its particular claim to man's protection lies in its partiality to the large, fat caterpillars of the big *Cecropia, Polyphemus,* and similar large moths that defoliate the forest trees. It also, of course, consumes quantities of field-mice, voles, and shrews, and small snakes are favorite food.

The two Rough-legs feed almost exclusively on mice. The eastern Rough-leg comes to the northern States only in winter, and is not common enough to be of much economic importance. Of 45 stomachs of this species containing food, 40 contained field-mice and 5 other small mammals.

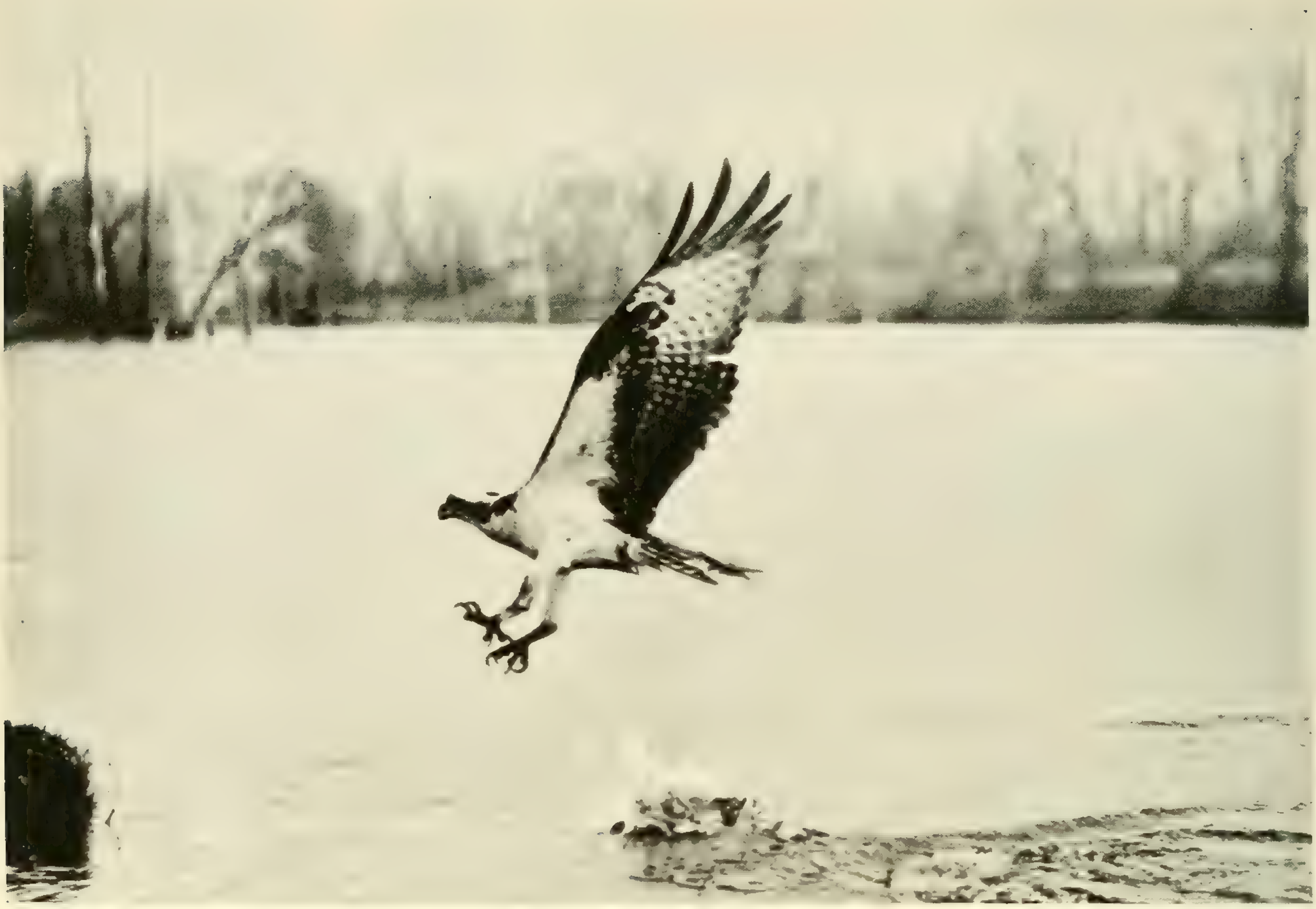
Over all western America the Ferruginous Rough-leg, or "Squirrel Hawk," is a fairly common and very important species.

With the utilization of large areas through irrigation, the ground-squirrels of the *Citellus* group have multiplied enormously, and not only cost the region millions of dollars in the grain and produce consumed, but do untold damage by burrowing in the irrigation dikes, causing floods to pour over the land at times when they are fatal to crops. By far the most effective enemy of these pestiferous rodents is the Red Rough-leg, or "Squirrel Hawk," and, as with the less desirable species, it has responded to the abundance of food, and has within comparatively few years become the principal check upon the greatly increased numbers of destructive ground-squirrels.

THE OSPREY, OUR LARGEST HAWK

The Osprey, or Fishhawk, as its name implies, feeds exclusively upon fish. It is our largest hawk, being almost as impressive on the wing as the Eagle himself. Its food consists almost wholly of the sluggish fish, such as carp and suckers, and it is in no sense a competitor of the angler or the commercial fisherman. It is our most picturesque bird of prey and should by all means enjoy perfect immunity and protection.

England, now almost without Ospreys,



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AN OSPREY, OUR LARGEST HAWK, RISING FROM A STRIKE

This is America's most picturesque bird of prey, and on the wing is almost as impressive in appearance as the eagle. Feeding exclusively on fish, the bird checks itself directly over its quarry when sighted. With wings folded and talons wide open, it descends, sometimes burying itself in the water with the force of its impact. In the above photograph the hawk is seen rising from the water after striking a decoy fish anchored to a stone.

would give much to rehabilitate this beautiful creature if it could do so. But let us realize that it is virtually impossible to reëstablish any species when it has once become locally extinct.

And here let us take heed in the case of another fine species, one with every patriotic and sentimental reason for its most sedulous protection—the White-headed, or "American," Eagle. For the past year this noble species has been placed upon the black list in Alaska and, far from being protected, a bounty of 50 cents a head has been placed upon it. This had resulted, up to January, 1920, in the killing of some 5,000 eagles in Alaska.

It is charged that eagles interfere with the salmon fisheries and kill large numbers of young deer, sheep, and goats, and on this plea one of our most beautiful and interesting species is threatened with early extermination in the one region where it is, or was until recently, sufficiently common to give a thrill to the visitor. It would seem that the mere fact that it is the universally recognized emblem of our nation should give this fine species protection wherever it is found in America, and that no local interest, until thoroughly substantiated by expert Federal investigation, should withdraw it from the safety of complete Federal protection.

The Marsh Hawk has not quite so clean a record of achievement as have most of the foregoing, as out of 115 stomachs 41 contained bird remains, of which 7 were game or poultry; 79 contained small mammals, the preponderance of which were meadow-mice. Thus, while it is mainly beneficial, it does kill quite a proportion of feathered food.

Last, but very important, comes the common little Sparrowhawk. As small as the smallest, his abundance and wide distribution make it necessary to reckon with him. The American Sparrowhawk is a little falcon, related to the Kestrel of Europe, but, unlike the European Sparrowhawk, an inveterate bird-killer, related to our Sharpshin. Our little falcon, the most ornate and beautiful of American hawks, is of invaluable service to agriculture by virtue of his fondness for grasshoppers. Occasionally he catches a bird; about a third of his diet is mice, but far the largest part is insects. During June, July, and August, when the young are being raised, they are fed over their weight daily on grasshoppers.

The service rendered by owls is even less appreciated than that of hawks, because they are mostly nocturnal, and hence are seldom heard and almost never seen. Owls are quite as expert mousers and ratters as the diurnal birds of prey, and the Great Horned is the only one which deserves a consistently bad reputation.

The Barred Owl lives almost exclusively on field and white-footed mice, with chipmunks, squirrels, rabbits, crawfish, and insects to vary the menu.

The Barn Owl, common all over the warmer parts of America, is exclusively a rodent feeder, and is 100 per cent beneficial, while both the long-eared and short-eared species are in virtually the same category, the Long-ear foraging in and around the margins of wooded areas and the Short-ear frequenting the wet meadows and marshes for voles, shrews, and mice.

Everywhere the commonest of all, the little Screech Owl, is the bird that most people hear and recognize. His soft, quavering call and velvety tooting are familiar and welcome sounds to those who know him, for he is the one owl that can and does survive with the taming of the land. Indeed, he seems to thrive best in the more thickly settled farming regions, nesting in the "woodlot" or orchard, in the village parks, or in the more wooded estates in the suburbs of large cities.

No bird of prey has a more varied list of food than this smallest of our common owls, as the following summary will show: Of 212 stomachs examined, 39 contained feathers, 112 small mammals, 100 insects, 2 lizards, 4 batrachians, 1 fish, 5 spiders, 9 crawfish, 2 scorpions, 2 earthworms, and 7 "miscellaneous."

The beautiful Snowy Owl, which comes in winter to the northern portions of the United States, has in some curious manner had protection specifically withdrawn from it and stands on the list of unprotected "vermin" on the game laws of the land. Out of 26 evidence-bearing examinations, 20 revealed injurious mammals and 11 had feathers among their contents. This is surely in favor of the Snowy Owl, which in winter is frequently seen along the seashore or on the ice-edge on the Great Lakes.

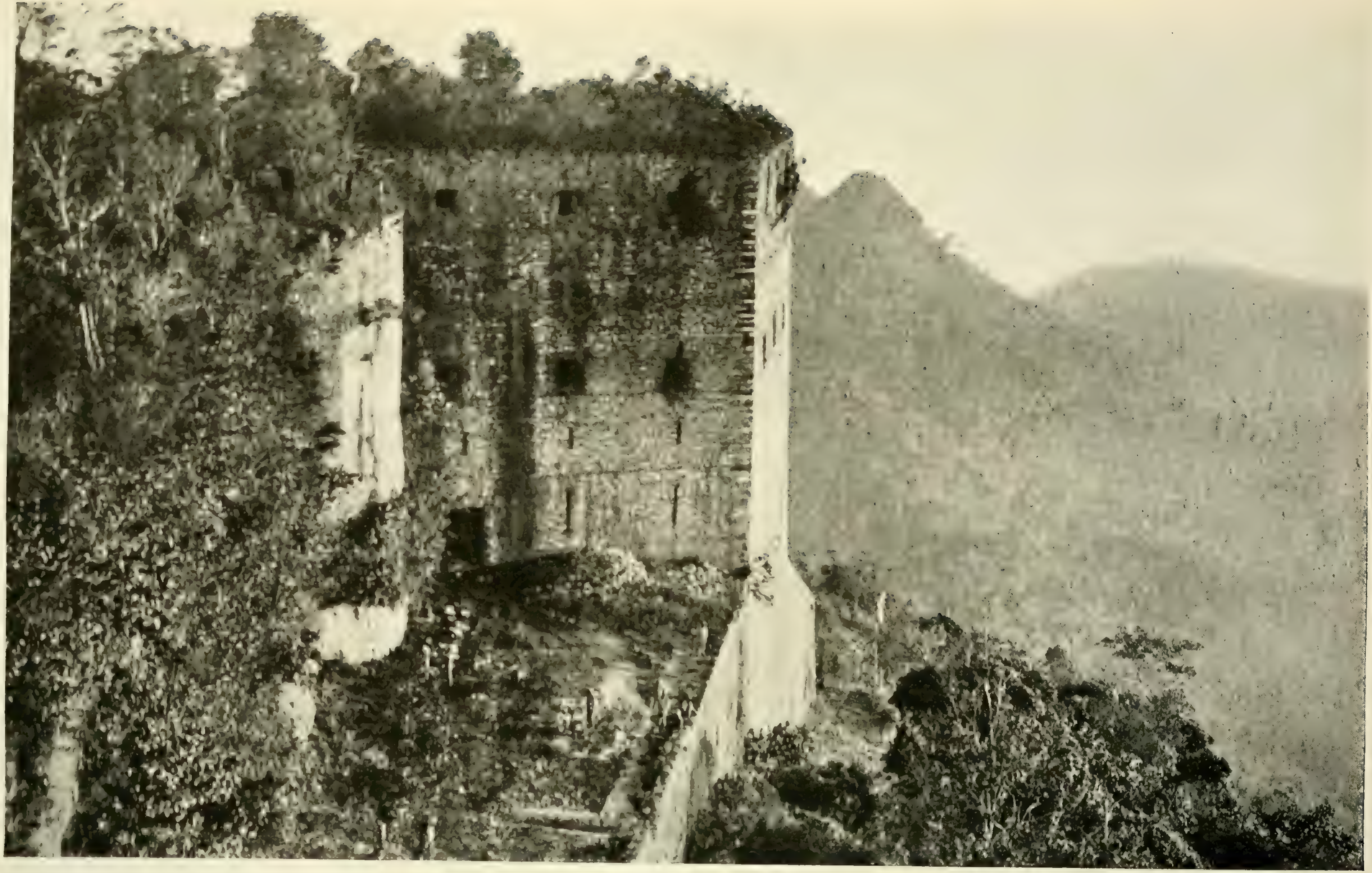
A PLEA FOR THE FARMER'S AIR SCOUTS

Is there not some direct way to bring before the agricultural and economic forces of our land their true relation to our birds of prey?

It is surely short-sighted voluntarily to destroy the greatest natural check on the greatest natural enemies of our greatest natural resource, and it would seem that merely proving the point that the birds of prey do even a little more good than harm would be sufficient to insure them complete protection. But it is easy to show that they are, all in all, of very vast value to our rural interests, and that their beneficial offices would be multiplied exactly in proportion to their increase under adequate protection.

It is largely our conservatism, the unwillingness to give up an idea that has long had lodgment in our minds, combined with the apparently complicated problem of "which is which," that has made the valuable species suffer from the misdeeds of the noxious ones, until now the situation is in many places really critical.

The time is not far away when one of two things must happen: Either proper and adequate protection must be granted and *enforced*, covering all birds of prey except the Goshawk, Cooper's Hawk, Sharp-shinned Hawk, Pigeon Hawk, Duck Hawk, and Great Horned Owl, the whole country over, or we shall soon find it too late to avail ourselves of their inestimable services, and must find new, costly, and far less efficient means of protecting our rural interests from the hordes of rapidly multiplying enemies that will continue, in ever-increasing numbers, to wage war upon agriculture.



THE MAIN ENTRANCE TO CHRISTOPHE'S CITADEL: HAITI

There are only two entrances to the citadel. One was used to bring in cannon balls from the reserve supplies stored on the terraces, and the second admitted to the prow of the fort. Massive, loopholed wooden doors guarded both entrances. Note the height of the towering walls compared with the men standing on the terrace.

A LITTLE-KNOWN MARVEL OF THE WESTERN HEMISPHERE

Christophe's Citadel, a Monument to the Tyranny and Genius of Haiti's King of Slaves

By Major G. H. Osterhout, Jr., U. S. M. C.

With Illustrations from Photographs by the Author

ABOUT twenty miles to the southwest of the town of Cape Haitien, in the north of the island of Haiti, there stands, on the top of a precipitous mountain, one of the wonders of the Western Hemisphere, yet one whose existence is at present scarcely known and one whose full history will never be written. A personal visit to Christophe's Citadel is necessary in order fully to appreciate its massiveness, its intricate and elaborate construction, and its remote situation (see map, page 489).

Few are so fortunate as to be able to visit this spot, or, even when given the opportunity, possess the physique necessary to make the arduous trip.

It is not surprising that Christophe's Citadel is so little known when consideration is given to the fact that Haiti itself, although only a few hundred miles from the United States, has been so little known as to be termed, until recently, "Mysterious Haiti." And for many to whom the geographic location of the island was familiar it was carefully catalogued as one to be avoided, due to frequent domestic upheavals, revolutions, assassinations, and the general uncertainty there of "life, liberty, and the pursuit of happiness."

THE ISLAND'S ISOLATION FOR CENTURIES IS DRAWING TO A CLOSE

These conditions have been changed recently, however, and, under the military guidance of the United States, the island's government has been stabilized.

Discovered on December 6, 1492, by Christopher Columbus (at Mole St. Nicholas), Haiti's delightful climate and wealth of virgin soil and forest are now for the first time beginning to draw toward it such general attention that it is only a question of a few years when its comparative isolation for so many centuries will be a source of amazement. And by far the greatest source of amazement to the tourist will be this vast citadel on Bonnet à L'Évêque, back in the mountains, eight miles from the town of Milôt, where stands another remarkable architectural pile, the ornate palace of "Sans Souci," both built more than a century ago by an untutored negro.

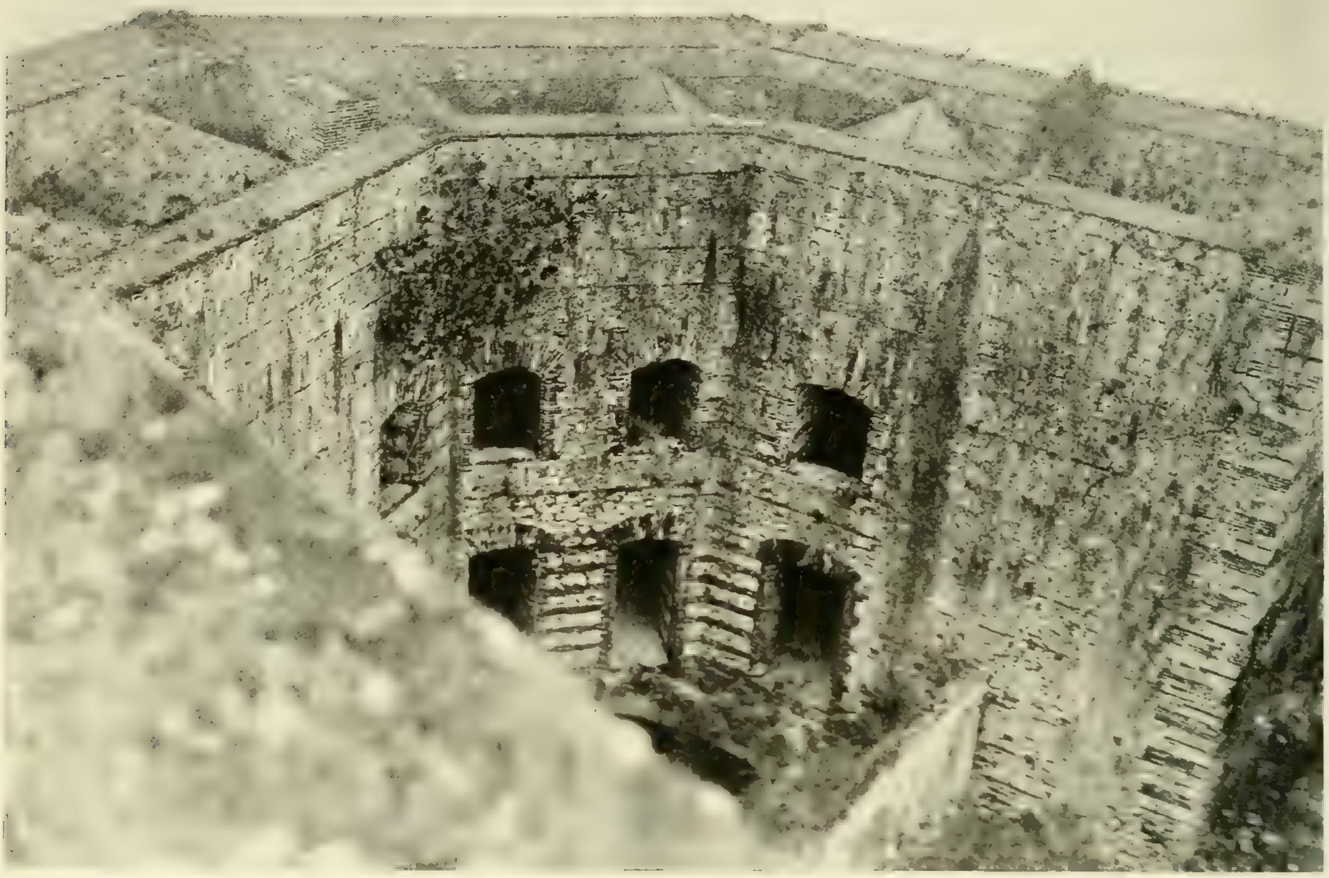
"EVERY STONE IN THE BUILDING COST A HUMAN LIFE"

Sir Spenser St. John, K. C. M. G. (British minister resident and consular general in Haiti, 1863-1875), in his book, "Hayti, or The Black Republic," makes the following interesting comments on Christophe's Citadel and the palace of Sans Souci:

"The most striking objects near Cap Haitien are the remains of Sans Souci, and of the citadel constructed by King Christophe, called La Ferrière.

"It requires a visit to induce one to believe that so elaborate, and, I may add, so handsome a structure, could exist in such a place as Haiti, or that a fortification such as the citadel could ever have been constructed on the summit of a lofty mountain, five thousand feet, I believe, above the level of the sea. Some of the walls are eighty feet in height and sixteen feet in thickness, where the heavy batteries of English guns still remain in position. All is of the most solid masonry, covering the whole peak of the mountain.

"We were really lost in amazement as we threaded gallery after gallery where heavy fifty-six and thirty-two pounders guarded every approach to what was intended to be the last asylum of Haitian



LOOKING DOWN INTO A SUNKEN COURT AT THE NORTHWEST CORNER OF CHRISTOPHE'S CITADEL

Although large granite rocks are to be found throughout the structure, red firebrick of varying sizes was the chief building material used. Apparently the bricks were manufactured on the site of the fortifications.

independence. Years of the labour of toiling thousands were spent to prepare this citadel, which the trembling earth laid in ruins in a few minutes.

"What energy did this black king possess to rear so great a monument? But the reverse of the medal states that every stone in that wonderful building cost a human life."

A Frenchman, Edgar La Salve, in his book, "La République d'Haïti," says:

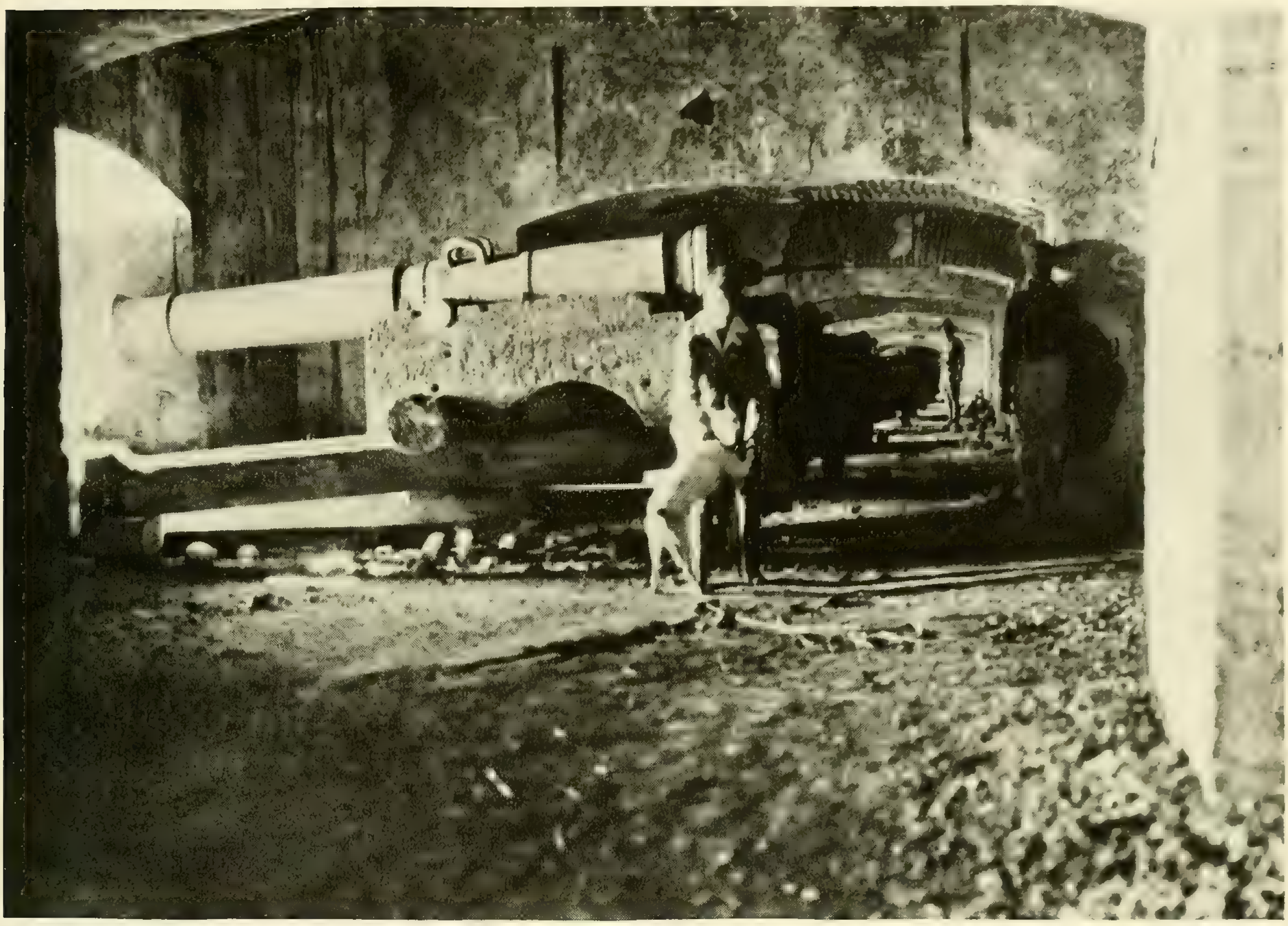
"Nowhere in France, England, or in the United States have I seen anything more imposing. The citadel of La Ferrière is truly a marvelous thing."

CHRISTOPHE BEGAN LIFE AS A WAITER

A brief sketch of the life and career of Henri Christophe is necessary in order to explain the why and wherefore of his citadel and palace, and properly to accentuate the difficulties of their construction. His origin and early life are shrouded in mystery, but it is generally accepted that he was born in 1769, on the island of St. Christopher.

It is known that prior to the first general uprising of the slaves against their French masters, Christophe worked as a waiter in Cap Française (now Cape Haitien), and it was in this humble capacity that he is supposed to have picked up his smattering of English and formed the acquaintance of English naval officers.

Tall and of a splendid physique, with exceptionally bright and piercing eyes, and with a reckless bravery and a terrible ferocity, combined with no little duplicity and cunning, he speedily achieved a conspicuous place as one of the trusted lieutenants of Toussaint L'Ouverture, that remarkable negro strategist who rose from slavery to a position of commanding importance in Haiti and who suc-



THE MAIN BATTERY IN THE EASTERN GALLERY OF CHRISTOPHE'S CITADEL

Each gun compartment has wonderful vaulted ceilings 20 feet in height, and each compartment is separated from those adjoining by thick walls of masonry, to minimize the effect of local explosions.

cessfully led the slaves in their revolt against the French, prior to the independence of the island republic.

Through treachery L'Ouverture was captured and carried away to Fort de Joux, in France, where he died in prison in 1803. His immediate successor was the both famous and notorious Dessalines, who became the successful leader of the Haitians against what was left of the army of 30,000 men Napoleon had sent to Haiti in 1801, under his brother-in-law, General Leclerc.

The struggle lasted two years, during which time Leclerc died of yellow fever. Finally the revolutionists were completely successful, establishing the independence of Haiti January 1, 1804.

Throughout all the strife Christophe was especially prominent, so that when Dessalines (who, not to be outdone by Napoleon, had created himself Emperor) was assassinated, in 1805, the former was elected President, but under a constitution drafted by one Pétion and containing restrictions distasteful to the new leader. So, in place of accepting the honor conferred on him, Christophe marched on Port au Prince and attacked Pétion's troops without success.

Returning to Cap Française, Christophe framed a constitution to meet his own ideas as to the instrument under which he should rule the state. From this time his operations were confined to the north, while Pétion held sway in the south.

CHRISTOPHE PROCLAIMS HIMSELF KING

Christophe's iron rule soon bore results. His portion of the country began to produce enormous crops of coffee, cocoa, sugar, indigo, and cotton. A large part of the resulting wealth was spent in building up the country; so that Haiti and her black master soon became the talk of Europe as well as of the Western Hemisphere.

ONE OF THE EMPTY TREASURE CHESTS FOUND AMONG THE RUINS OF CHRISTOPHE'S CITADEL

Christophe proclaimed himself king in 1811, with the title of "Henri I." He established a titled nobility and a rigid court etiquette, which he maintained with much pomp. He even changed the name of Cap Française to Cap Henri (now Cape Haitien).

When, in 1804, Dessalines assigned his military leaders to various parts of the country, he instructed them to build strong forts at inaccessible points, where ammunition, arms, and supplies could be stored safely, and where the Haitian forces could hold out against the French, if the latter should try to reconquer the island, which seemed probable at that time.

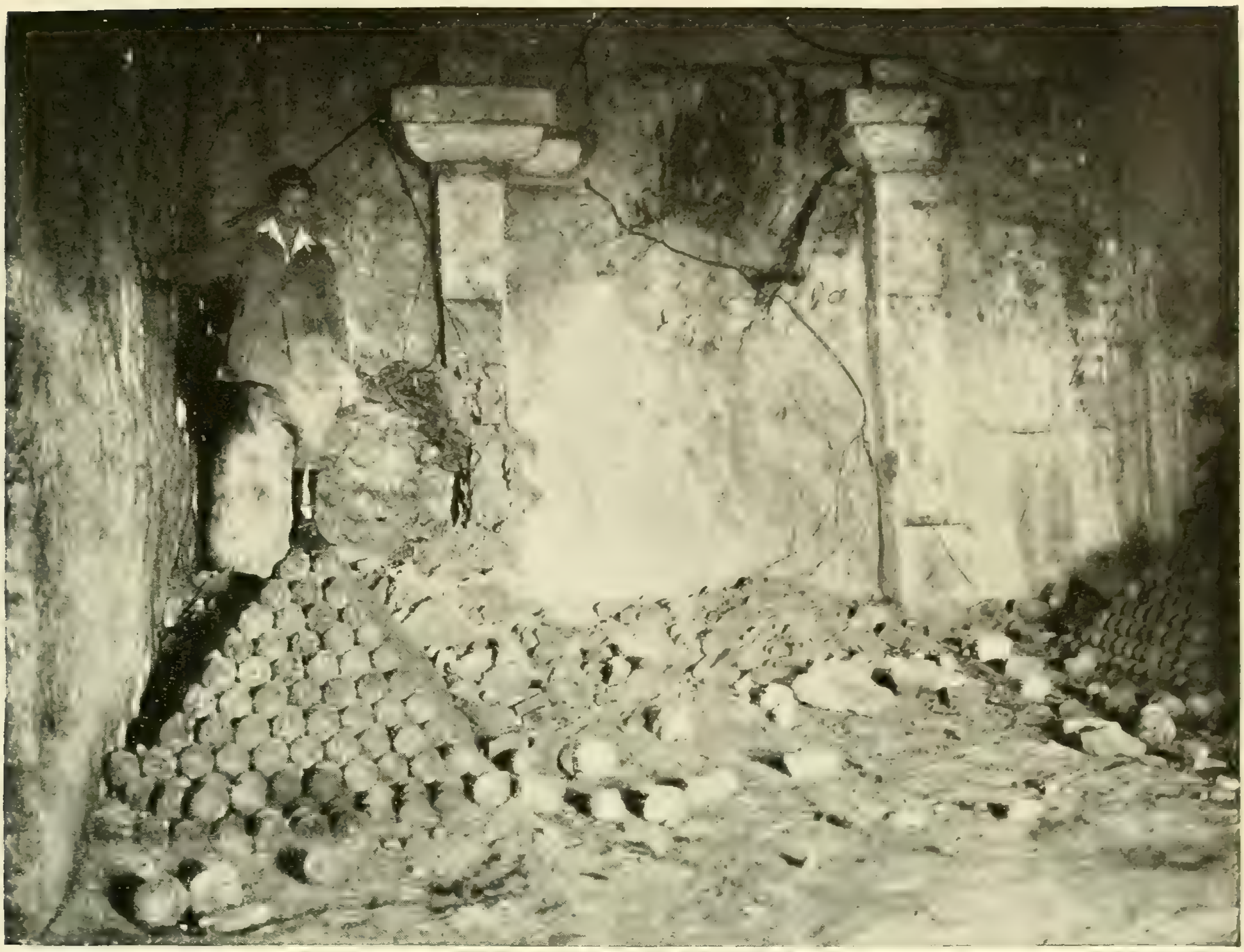
Christophe was assigned to the northern department, and at once set about building the citadel on Bonnet à L'Évêque (Bishop's Hat), which was subsequently called "La Ferrière," then "Citadelle Henri," and which is now known as "Christophe's Citadel."

The zeal and the product of the labor of the commander of the northern department were such as to arouse strong suspicion that from the first he contemplated not only resisting the French but also overthrowing Dessalines.

THE CITADEL'S SECRETS GUARDED BY THE MURDER OF ITS DESIGNERS

It is not known just what length of time was required to build the citadel, but it is evident it was finished some little time prior to Christophe's death, in 1820. Its construction is variously estimated to have taken a toll ranging from ten to twenty thousand human lives.

It is believed that the plans for the structure were drawn and the work of construction supervised by two captive French officers, who possessed the highest order of technical training. When their work was completed, Christophe, in company with these officers, is said to have made a thorough inspection of all parts



HOLES DUG IN THE WALLS OF CHRISTOPHE'S CITADEL IN SEARCH OF TREASURE

Even in the gun gallery and in the walls back of the gun emplacements, treasure-seekers have burrowed like moles in the hope of unearthing some of the immense store of gold and silver reputed to be hidden somewhere in the ruins. Only empty and badly rusted money-chests have been found in recent years, however.

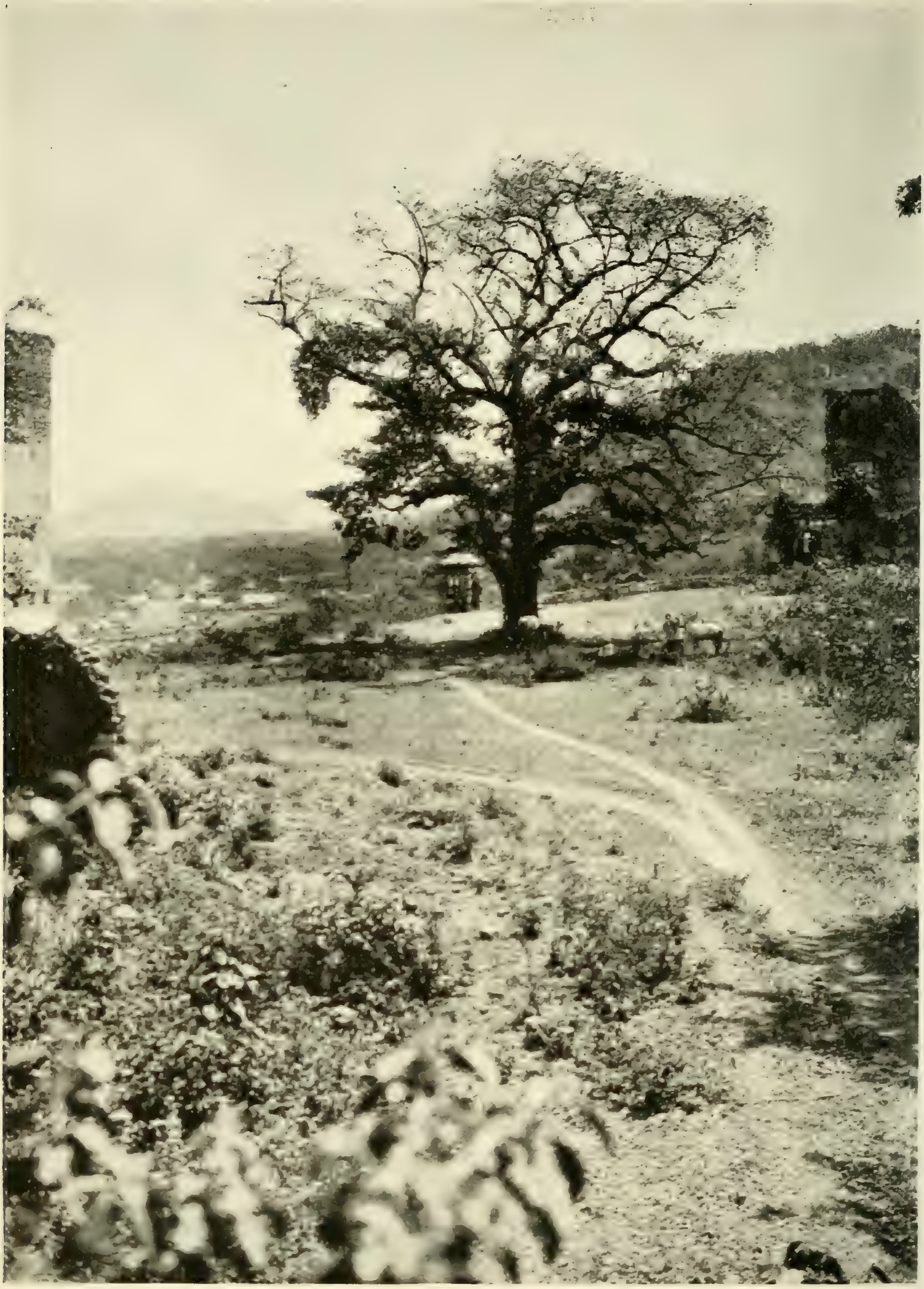
of the structure, and then, upon arriving at one of the highest points of the edifice, ordered both men seized and hurled to their death on the rocks below, thus forever safeguarding the secrets of the place. There is a legend that the tyrant once had an entire company of mutinous soldiers driven off this same spot; it was his favorite method of dispatching those who incurred the royal ill will.

The mere location of this citadel is such that one wonders how nature provided such a site, and a thorough inspection causes unbounded admiration for the master mind that recognized its possibilities, aside from conceiving and constructing the edifice now standing there; for Bonnet à L'Évêque could not have been more ideally located for its purpose if it had been made to order. Occupying the entire top of the mountain, the citadel commands every neighboring peak and approach, while a spring beneath and inside of the building furnishes an abundant supply of water, that prime necessity in withstanding a long siege.

THE CITADEL HAS THE PROW FORMATION

The building has the prow formation, pointing toward the magnetic north, the entire eastern face being in this line. On the eastward side, which is the longest, is located the main battery of heavy guns; and strategically this should be so, for this gives absolute command of the most dangerous approach, that from the direction of Grande Rivière. An army, with the necessary guns and equipage successfully to attack this stronghold, would have to come from that direction.

Guns in the prow commanded the nearer and steeper approaches, both from the direction of Grande Rivière and of Milôt. Other guns along the southern



THE "TREE OF JUSTICE": HAITI

Under this star-apple tree, on the terrace by his palace, Christophe heard all cases and awarded sentences.

and western sides commanded adequately all other points of approach. Numerous loop-holes were especially prepared for the use of sharpshooters.

The elevation at the base of the citadel has been variously given as from 3,000 to 5,000 feet, but a careful reading of a compensated aneroid barometer records 2,600 feet. To this must be added the height of the different walls, in order to ascertain the correct elevation to the top of the building.

The difficulty in reaching the citadel is due not so much to its elevation as to the fact that to reach it one is compelled to cross at least eight miles of mountainous country, and the approaches are all very steep. The highest place on the walls (measured to the ground) is 140 feet. The highest wall, measured perpendicularly, is the prow, which has a drop of 130 feet. Other walls range from 80 to 110 feet.

On the west face there is a terrace 40 feet high. Because of the heavy growth of trees and vegetation on it, this terrace is not visible from above.

BUILT OF FIRE-BRICKS MADE ON THE SITE

Although large granite blocks are to be found in many places throughout the building, most of it is built of red fire-bricks of different sizes, the average brick being fifteen inches long, six inches wide, and two inches thick. These bricks apparently were manufactured on the site of the building. The mountains for long distances in all directions from the citadel show traces of Titanic labor in getting out building material. The average number of floors is four, the longest being on the east face, where the main battery is located. It has a length of 270 feet in one stretch.

The main battery gallery has an inside width of 30 feet. Each gun compartment has wonderful vaulted ceilings 20 feet high, each compartment being separated from those adjoining by thick masonry walls, connected by a low passageway. This is to minimize the effect of local explosions and possible hits.

Behind each gun there are still to be found neat piles of cannon balls ready for use, while in convenient chambers just to the rear of some of the guns are heaps of decomposed black powder mingled with the remains of the original wooden powder cases. A vast pile of similar débris is also to be found in the large powder magazine.

The largest guns are 11 feet 6 inches long, caliber 6 inches (firing a 6-inch cannon ball), 1 foot 10 inches thick at the breech and 1 foot 3¾ inches at the muzzle, dated 1786. They are made of bronze and have enormous hardwood mounts of the primitive gravity return type, moving in train over a large metal arc set in the floor, and on small wheels of a strong make.

EVERY TENTH MAN KILLED

These guns came mostly from the English, some coming from the captured French forts, and others, judging from the very apparent results of the corrosive action of salt water on them, came from war vessels wrecked along the treacherous coast. Similar guns are mounted in the upper gallery on the southern face and in the lower gallery to the northwest. Others are lying in the court and along the east parapet. At least a dozen large mortars are piled up outside.

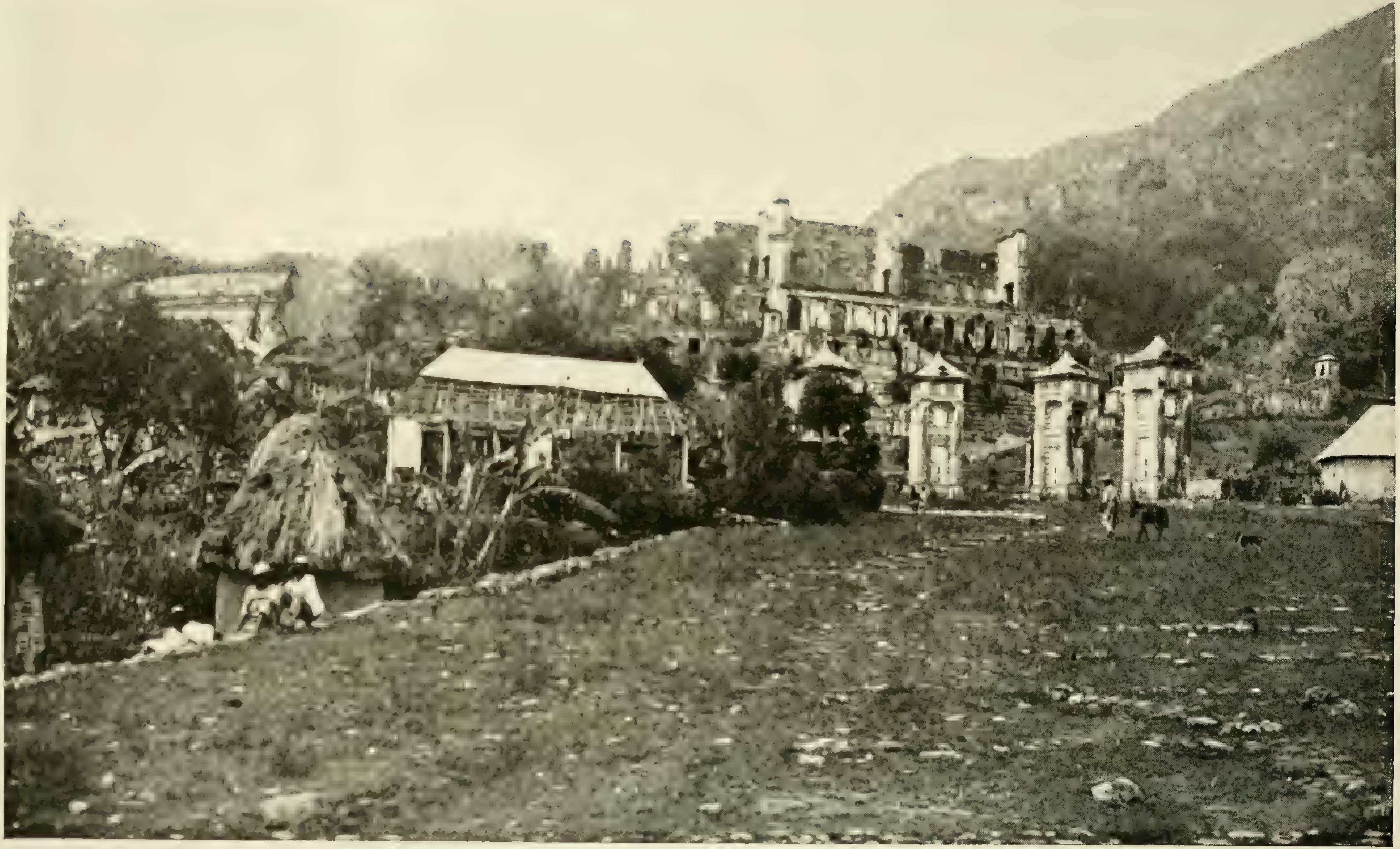
With the meager facilities available in the early 19th century, and especially in Haiti, it is a source of mystery how these guns were brought up the precipitous mountain trail to their present location. There is a tradition that Christophe was accustomed to assign a certain distance which a given force of men would have to move a gun each day, and upon their failing to do so he killed every tenth man of the detachment.

The surface of the rocks on the trails leading to the citadel is worn in ruts and is as smooth as glass from the passage of the heavy weights over them—a silent testimonial to the appalling amount of labor expended.

A THREE-HOURS' CLIMB TO THE CITADEL

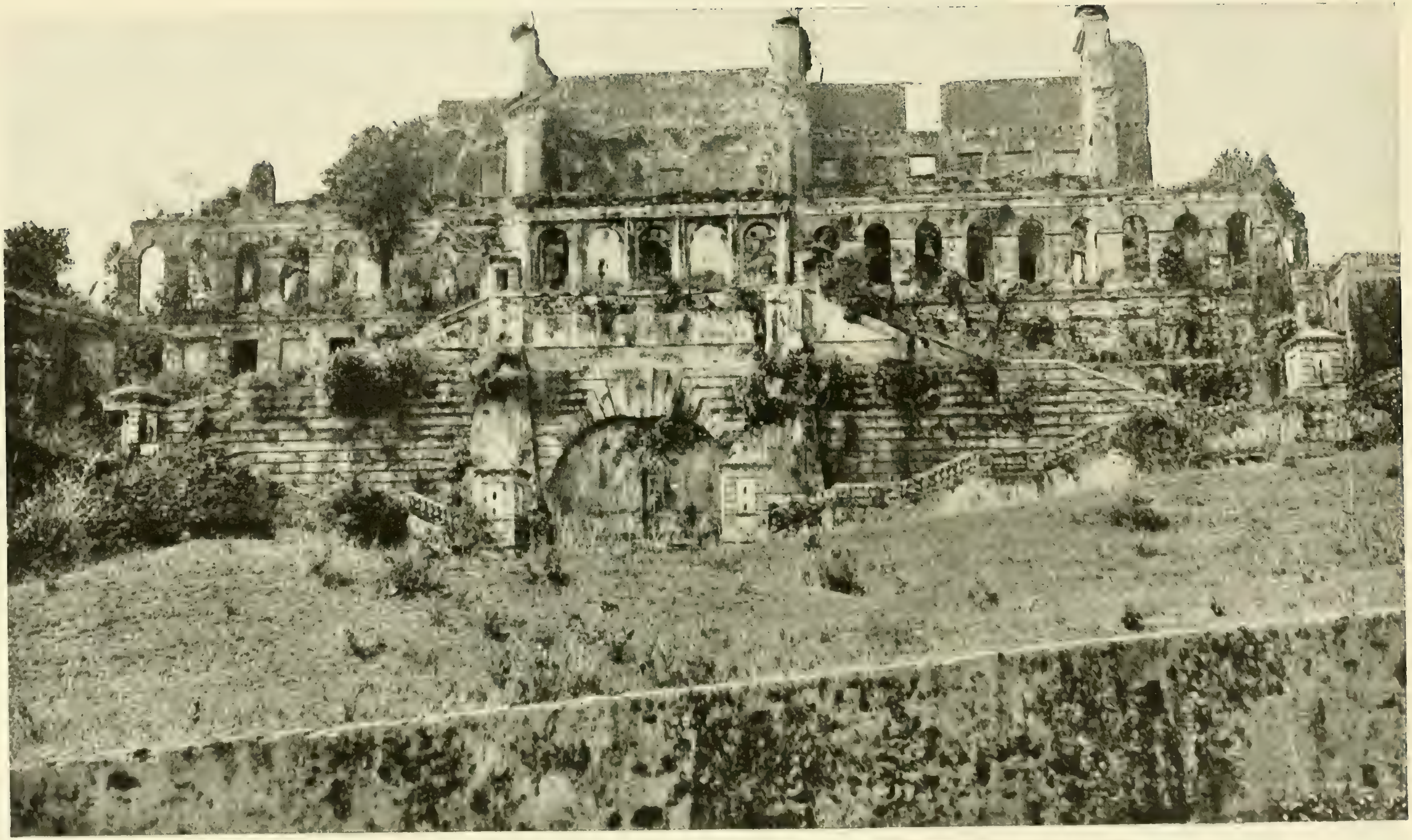
These traces are especially conspicuous along a steep trail down the slope west of the low prow, indicating that toilers or their taskmasters preferred the steeper trail to the more gradual, but longer one, around to the front and zigzagging up to the main entrance.

It is a good three hours' climb either



RUINS OF CHRISTOPHE'S ORNATE PALACE, SANS SOUCI, AT MILÔT, HAITI

The French origin of the style of architecture is apparent at a glance. The site of the structure commands a magnificent view down the fertile valley of Milôt.



A CLOSER VIEW OF SANS SOUCI

At the front are to be seen the remains of a series of beautiful terraced gardens.

IN THE PALACE GARDENS OF SANS SOUCI: HAITI

One historian has described Christophe's palace as "an unbelievable edifice, worthy of the 'Arabian Nights,'" where the black monarch held a court as gorgeous as that in an opera bouffe.

from Milôt or Grande Rivière to the citadel, the grade from the latter being far easier. The trip may be made on horseback when the trails are dry, but from Milôt up it is extremely cruel to ride the animals and scarcely calculated to improve their usefulness. From Grande Rivière it is not so bad. A person can climb on foot about as fast as the horses make it; but, even when in the best of condition, a man will be thoroughly exhausted on reaching the top. Yet fairly large parties, including ladies, make picnic trips to the place, sending food and bedding in advance. On such occasions the visitors spend the night in these romantic and awe-inspiring surroundings, making a leisurely return the next day.

There are only two entrances to the citadel. One was used to bring in the reserve cannon balls from the long piles stored by sizes on the sloping terrace to the south; the other only admits to the prow. Both entrances were closed by massive, bolted and loopholed wooden doors.

THE STRUCTURE ONLY PARTLY WRECKED BY EARTHQUAKES

The entire structure is in an excellent state of preservation, except that the floors in the prow were all shaken down in the earthquake of 1842, which laid the town of Cape Haitien in ruins.

The top of this prow has three large fissures, a result of the same shock, while its west side is now covered by a growth of bright red lichen that gives it the appearance of having been painted. The structures on the extreme top, resembling a roof garden, were also badly shaken by the earthquake. It is difficult to understand, however, how Sir Spenser St. John could have written: "Years of the labour of toiling thousands were spent to prepare this citadel, which the trembling earth laid in ruins in a few minutes"; for only a comparatively small interior portion is in ruins even now, and that not to an extent impossible of repair with comparatively little labor.

On the night of his death Christophe's body was placed in lime in the main tomb of the citadel. The tomb inside a nearby room is supposed to contain the remains of some of his family. The latter is unmarked.

STORIES TO HORRIFY THE VISITOR

The masonry pile at the summit is thought by some to be a cap on the original peak of the mountain; but others have excavated a large section of it, hoping to find the enormous treasure reported to be buried about the place. It seems probable this is only a covering for another tomb.

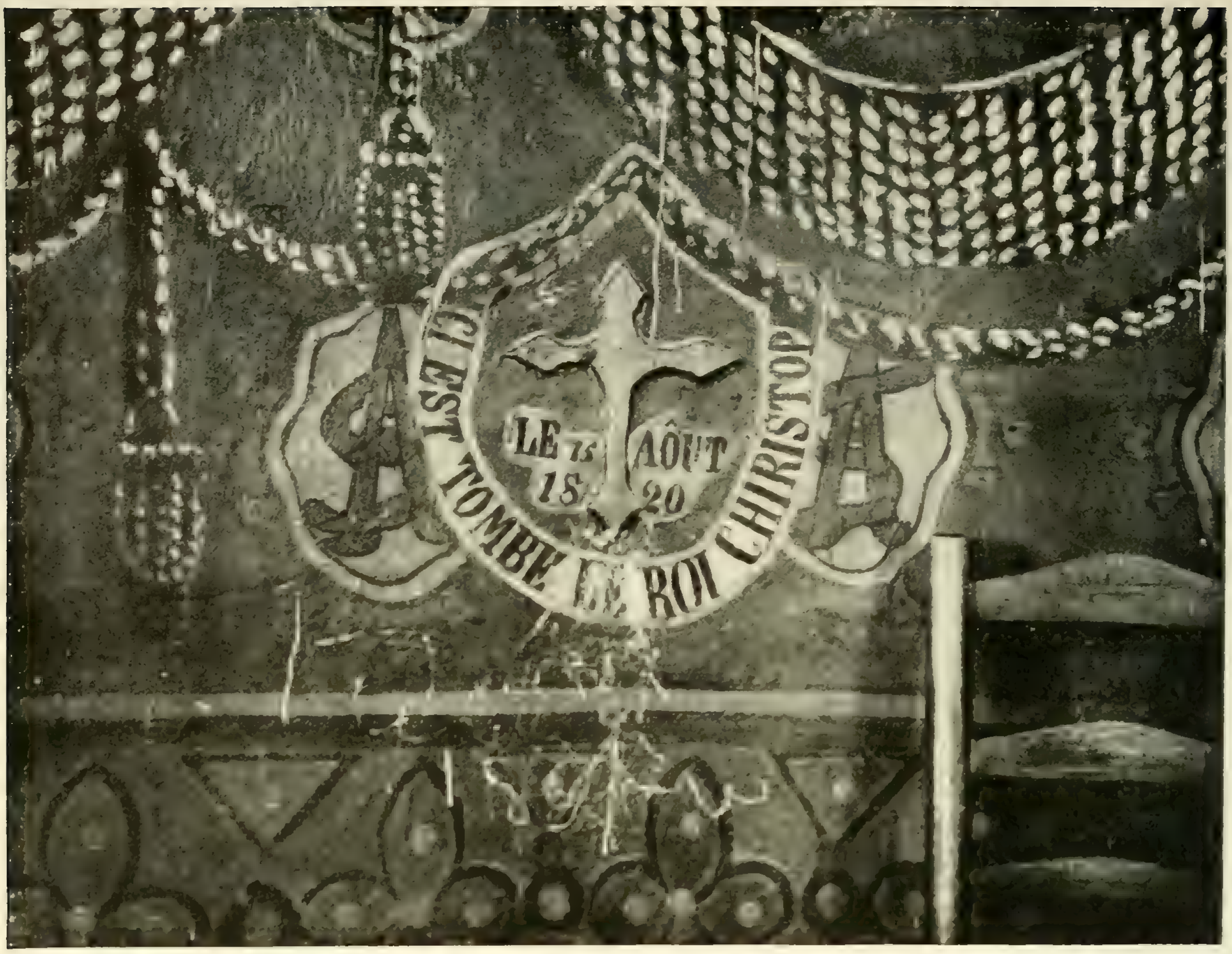
Considerable digging has been done in many parts of the citadel with the hope of locating the treasure mentioned—even in the gun gallery in the walls back of the gun emplacements. However, as the money-chests—badly rusted, completely wrecked, and empty—still remain in and around the dungeons, it would seem that whatever treasure once existed has long since been removed.

Many stories have been given tongue by the native guides to inspire the horror of the visitors. For instance, on his first visit, the writer was shown a sizable masonry chute in the center of one of the galleries and informed by the Haitian guide that it was a "death slide," through which Christophe hurled his victims from the side of the citadel into the valley far below. Subsequent investigation revealed the fact that the end of the "death slide" was less than twenty feet above a terrace and must have been designed as a chute for refuse!

THE BLACK KING'S ORNATE PALACE OF SANS SOUCI

The ruins of the ornate Sans Souci Palace at Milôt, while very elaborate, do not compare with the citadel in interest or as a source of speculation; yet the remains of such grandeur in that location make a profound impression on a visitor, causing many reflections on the earthly ambitions of Christophe and serving as an index to the truly regal state which he must have achieved.

The French origin of the architecture is apparent at a glance, while the site, with its command of the view down the fertile valley of Milôt, is one of rare beauty.



INSCRIPTION ON THE WALL ALONGSIDE THE ALTAR WHERE CHRISTOPHE FELL

It was while attending mass in a church at Limonade, 12 miles from Cape Haitien, that the one-time waiter who made himself king was stricken with apoplexy, on April 15, 1820.

THE EMPTY TOMB OF CHRISTOPHE

Photograph by Mrs. C. R. Miller

A HAITIAN BELLE IN PORT AU PRINCE, HAITI

At the front one sees the remains of a series of beautiful terraced gardens, while to the rear are the ruins of many masonry houses formerly occupied by the black king's numerous retinue, household guards, and stables.

The name given this palace serves as a very pointed expression of Christophe's barbaric nature and peculiar twist of mind. Some have imagined that the Haitian tyrant borrowed the name from Frederick the Great's famous pleasure palace, after the fashion in which Toussaint L'Ouverture styled himself the "Buonaparte of St. Domingo," but more practical chroniclers offer this key to the mystery:

In the war against the French slaveholders, Christophe had one rival by the name of Sans Souci, who rose to command the entire northern section of the island, from Borgne to Fort Liberté, the territory over which Christophe wished to hold sway.

After Toussaint L'Ouverture had been exiled, Dessalines succeeded by intrigue in persuading Sans Souci to join his cause. Soon after this occurred, Christophe inveigled Sans Souci to the plantation of Grand-pré and there deliberately murdered him, thus avenging himself for past bitter experiences and defeat and gaining at the same time control in the northern department. Hence it is assumed that this name applied to his palace served Christophe as an ironic reminder of the whole affair and possibly as an indication of his contempt for his late rival and the manner of the latter's taking-off.

CHRISTOPHE'S MELODRAMATIC END

Christophe's downfall and death were as sudden and melodramatic as the rest of his career. The final act in the drama began with an episode in the church at Limonade, Haiti, twelve miles from Cape Haitien and about fourteen miles from Milôt. While attending mass on April 15, 1820, he suffered a stroke of apoplexy and fell heavily to the floor alongside the altar in the chapel, paralyzed below the waist.

One version of the incident is that he slapped a priest at the altar and was smitten in the act; another, that a priest poisoned him by means of the communion cup. Even today, in the vicinity

Photograph by Harriet Chalmers Adams

DANCING TO THE MUSIC OF THE TOM-TOM IN HAITI

The tom-tom is one of the weirdest of musical instruments. It sounds far away when close at hand, and close at hand when far away. The voodoo worshipers make great use of it in their frenzied orgies. The drummer sits beneath the tree.

of Limonade the tourist is regaled with the story that, as the king remained in the town several days in an effort to conquer his affliction, all roosters, burros, and other noisy domestic creatures within a radius of many miles were killed, while children were not allowed to play, traffic was stopped, and every precaution taken to preserve absolute tranquillity.

He was eventually removed to Sans Souci, but news of his illness spread rapidly and he began to be deserted at once by his more distant but embittered followers.

DESERTED BY HIS TROOPS, THE KING COMMITS SUICIDE

In October of the same year (1820), the towns of Saint Marc and Cape Haitien having deserted his cause, Christophe resolved to punish the rebels. On October 8 he tried to recover the use of his limbs by having them vigorously rubbed for a considerable period with a mixture of rum and pepper, but this expedient failed and he was obliged to be carried out in an armchair to review his departing troops, whom he charged with carrying out his mission.

The king's army was scarcely out of sight when it went over to the other side.

Upon receiving reports of this calamity Christophe realized at once that the time of retribution had arrived and that his only escape was suicide. It is related that he went about his preparations most methodically, calling in his wife and family and making provision for their safety and welfare. Then, after bathing and arraying himself in a spotless suit of white, he grasped a pistol and fired a shot through his heart.

His remains were carried that night to the citadel on Bonnet à L'Évêque, which stands today as the most impressive monument to a tyrant in our hemisphere, and which will serve to preserve his name for generations to come, while those of his more illustrious contemporaries and successors sink into oblivion.

HAITI, THE HOME OF TWIN REPUBLICS

By Sir Harry Johnston

THE best general name for the second largest of the Greater Antilles is that which Columbus gave to it after its discovery in 1492—Hispaniola. He christened his first settlement there "San [or Santo] Domingo" because it was discovered on a Sunday.

As to a great extent the Spanish colonization of the island proceeded from this fortified town, now the capital of the Dominican Republic, "San Domingo" to a great extent superseded Hispaniola (Española) as the name of the whole island. The French pirates and buccaneers (*Boucaniers,* or the people who visited the island to kill the wild cattle and dry the strips of beef—boucan—in the sun) generally called the island "Saint Domingue."

The aborigines seem to have lingered longest in existence in the northwestern parts of Hispaniola, and the name which they gave to their country, or to one of its districts, was *Haiti.*

Eventually the French pirates were succeeded by a regular French colonial administration in the reign of Louis XIV, and an arrangement was come to with Spain by which the western third of Hispaniola became a French colony, the eastern two-thirds being almost forsaken, owing to the superior attractions to the Spaniard of his vast empire in Central and South America.

THE ISLAND IS DIVIDED INTO TWO INDEPENDENT STATES

The French continued to use the name Domingue down to the close of the eighteenth century; but when the negro revolt became victorious in 1804 the Arawak name of Haiti was revived and applied by the French-speaking negroes to the whole of the island. Then, when the Spanish element in eastern Hispaniola revived and shook itself free of negro domination, it became, in 1844, the Republic of Santo Domingo, or the Dominican Republic.

Now this large island of 28,249 square miles is very sharply and definitely divided into two States—the Republic of Haiti in the west and of Santo Domingo in the east.* Santo Domingo speaks Spanish, either the classical Castilian or a slightly corrupted dialect, and Haiti uses French as its official language, while 2,000,000 of its negro peasantry speak a creole language, which, though founded on French, has become an absolutely distinct tongue. It is somewhat awkward, therefore, to give the name of "Haiti" or of "San Domingo" to the whole island. Hispaniola would be preferable.

It is highly improbable that the whole of Hispaniola ever will be under one central government. Santo Domingo will become a yellow or even a white State. Haiti will always be a land of the blacks.

A LAND OF MANY MOUNTAINS AND WONDERFUL SCENERY

The scenery of Haiti—and indeed of Hispaniola generally—when this island becomes better known, will take a very high rank among the beautiful and delectable regions of the world. The climate, though hot, is healthful, and for six months of the year, at least, delightful; while everywhere above 2,000 feet in altitude it is ideally temperate all the year round.

Haiti is extraordinarily mountainous, though its ranges or peaks do not reach to the altitudes attained by two or three points in Santo Domingo, where the highest peak—Loma de la Tina—possibly exceeds 10,000 feet in altitude. The highest point as yet measured within the limits of Haiti is about 8,920 feet (the Saddle Mountains, or Mont de la Selle).

The splendid range of the Cibao Mountains (which begins in the northwest of Haiti) extends from northeast to southwest and is really the spine of the island; but the great altitudes of this range are reached within Dominican limits in the

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* See also in The Geographic, "Haiti: A Degenerating Island," by Rear Admiral Colby M. Chester, U. S. N., March, 1908, and "Wards of the United States," August, 1916.

Courtesy U. S. Marine Corps

THE COCKPIT IS THE HAITIAN COUNTERPART OF THE SPANISH BULL-RING

Courtesy U. S. Marine Corps

THE COCKFIGHT IS NOT THE ONLY PASTIME IN HAITI

Courtesy U. S. Marine Corps

A RAILROAD WHOSE MOTIVE POWER IS BULLOCK TEAMS: HAITI

Not much of the block of ice on the flat car in the left foreground will remain when it reaches its destination.

magnificent mountains of Entre-los-Rios, Yaque, and Tina, all of which are just under or just over 10,000 feet.

The greatest altitudes in Haiti are in the southern part of the Republic, along a range which no doubt was once continuous with the Blue Mountains of Jamaica.

Between the southern and northern mountains of Haiti are two intermediate ranges on either side of the valley of the great Artibonite River.

Between the southern Artibonite Range and the long sierra of southern Haiti is a narrow region of plain called by the French originally the *Cul de Sac.* This stretches from the vicinity of Port au Prince, on the Gulf of Gonaïves, to the Bay of Neiba, in southern Santo Domingo, and obviously represents an ancient strait of the sea which, a million years ago or less, cut off southern Haiti from the rest of the island.

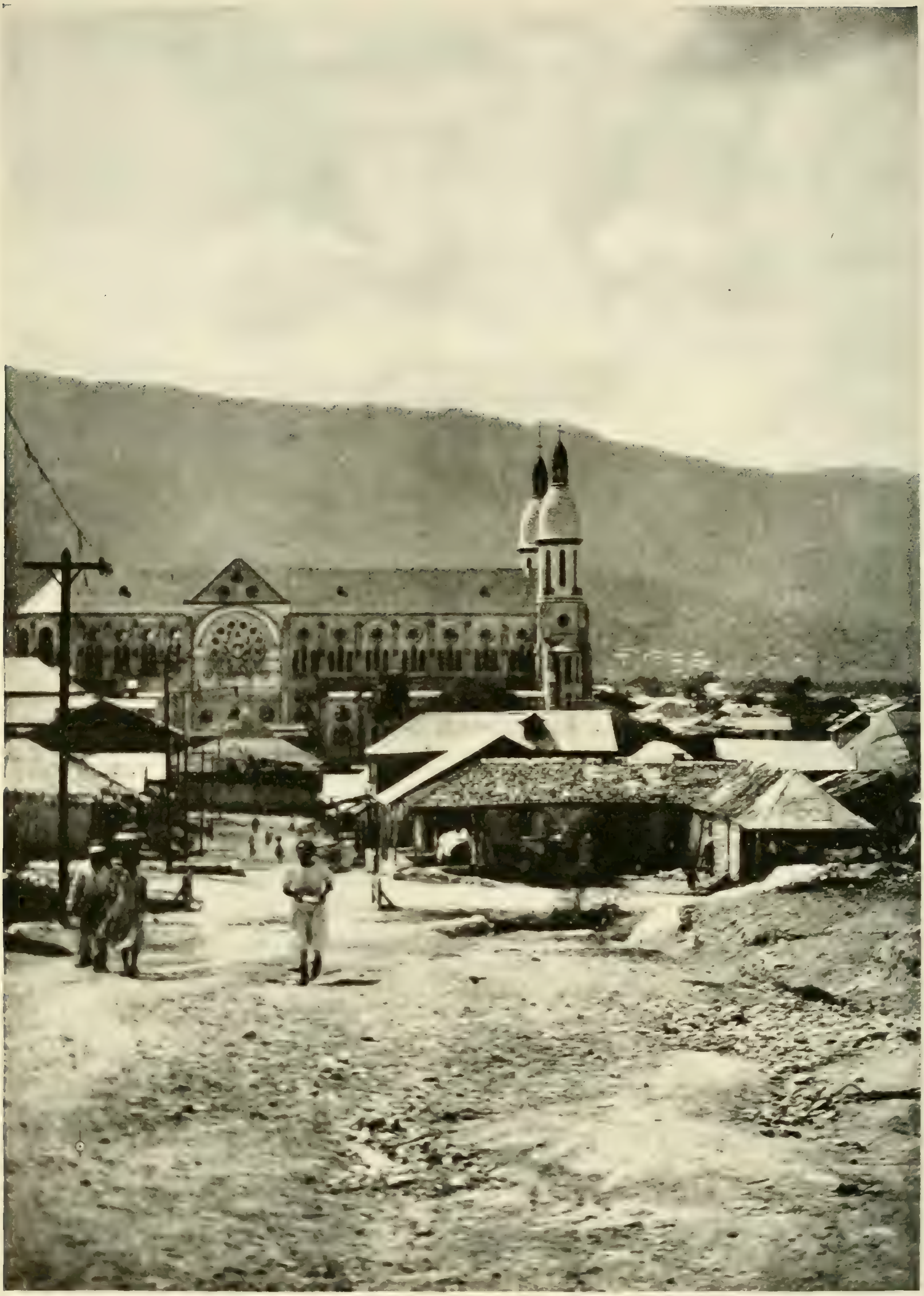
At the present day this plain contains several lakes, one of which (Lake Limon) is fresh, one (Lake Azuey) very salt, and one (Lake Enriquillo, the largest) brackish. Lake Azuey (called by the French *Étang saumatre*) is almost entirely on Haitian territory, but the easternmost end belongs to Santo Domingo. The other lakes are entirely on Dominican territory. All of them offer scenery of the most remarkable beauty.

MOUNTAINS CLOTHED WITH SUPERB FORESTS

On the southern shore of Lake Azuey splendid mountains rise to the altitude of Mont de la Selle—nearly 9,000 feet—while along the northern bank they reach to at least 4,000 feet. All these mountains, above 3,000 feet, are clothed with superb forests of Georgian pines, though the British concessionaires and the Haitian peasantry are rapidly and too recklessly felling these magnificent trees, the complete destruction of which will undoubtedly have a malign influence on the future rain supply.

The lower slopes of the lower Haitian mountains have dense forests of lignumvitæ, of fan palms, of royal palms, mahogany, logwood, and mimosas.

The water of Lake Azuey is very blue, and this (as also in the running streams



Photograph by Frederick I. Monsen

THE CATHEDRAL IN PORT AU PRINCE

The capital and principal seaport of the Republic of Haiti is situated on the west coast of the island, in a marshy region. It has a population of 120,000.

of Haiti) partly arises from a limestone bottom.

There is a great deal of limestone in the surface formations of Haiti, and this is often revealed in the almost brilliant whiteness of chalk by the heavy rainfall, which sweeps away the humus and reveals great fissures of white, so that the sides of the mountain peaks appear at a distance to be streaked with snow. In the dry season the beds of the mountain streams are blazing white with their boulders and pebbles of chalky limestone. Yet a good deal of the surface in parts is covered with a reddish clay.

WONDERFUL FLOWERING TREES BEAUTIFY THE ISLAND

The flat portions of the shores of Lake Azuey (which in other parts looks very much like a Scotch loch) have a thorny growth of mimosa and of "Cashaw" trees, together with an abundance of arboreal cacti—tall Opuntias, with great fat "hands" studded with ruby buds or topaz-colored blossoms; *Cereus* cacti, growing in erect columns (or else of a branching habit), with creamy white flowers, or other writhing snake-like forms of *Cereus* with triangular stem.

There are also Yuccas, which grow indifferently at sea-level and at 7,000 feet. They are indeed objects of striking beauty in a Haitian landscape, whether silhouetted on the edge of some tremendous precipice and standing out against the clear blue background of distant mountain or rising out of the white sand against the purple waters of the lake.

The Yucca commences with a great mound of lily-like leaves of a vivid green, and from this rises the 30-foot-high flower-stalk—a candelabra of golden yellow blossoms These clusters of yellow, tubelike flowers are haunted incessantly by birds for the sake of the insects, or possibly the honey, they contain. Consequently these immense columns of inflorescence are rendered additionally beautiful by the bird life that hovers about them so eagerly that it scarcely regards the approach of man.

There are woodpeckers of black with yellow spots with bright crimson-scarlet heads and rumps; glossy-black and golden-yellow *Icterus* starlings, quits of smalt-blue and orange. There are also occasionally black-green *Lampornis* humming-birds; but these creatures are not so abundant in Haiti as in Jamaica.

The eastern end of Lake Azuey possesses two or three colonies of the scarlet American flamingo. There are iguanas still lingering on the rocky islands along the northern shores of this lake. Elsewhere on the mainland they have been almost exterminated by the natives for the sake of their edible flesh.

The eastern end of Lake Azuey, as already mentioned, is within the political limits of Santo Domingo. Consequently there is a customs station established on the northeast shore to control the road which passes between the two republics. Here I found established a white American official of the best type. He had served in the Philippines and in the Far West. He was a typical Anglo-Saxon, with fair hair and blue eyes, but a deeply tanned complexion.

It was delightful to see what amenities of life he had introduced into the excessively wild region where he was stationed—a sun-baked spot on the southern slopes of 4,000-feet-high mountains, the bush bristling with thorny cacti and mimosas, and the country people—Haitians and Dominicans—none too friendly at first and resenting interference with contraband.

AMERICAN HOME LIFE IN THE WILDS

In addition to an extremely neat and clean fortified station, he had built a little bungalow near the waters of the lake, where most welcome shade from the fierce sun was obtainable. Here was a gramophone of the latest design, with the newest records, and here, while we discussed the delicious coffee and milk which he provided (milk being a great rarity in the Haitian hinterland), the strains of Caruso, Melba, Scotti, the stirring songs of Harry Lauder and R. G. Knowles pealed over the waters and re-echoed from the gorges of the hills.

This gramophone was making the American customs officer popular among Haitians and Dominicans alike over a wide area of surrounding country.

The Dominican frontier guards are

Photograph by Mrs. C. R. Miller

A COUNTRY SCENE IN HAITI

Every morning hundreds of women may be seen riding into town on horses, mules, or donkeys, bringing their produce to market.

frequently handsome men, and Dominicans generally seem to me a good-looking people, pale olive in complexion, but with features that are sometimes almost Greek in outline. They are obviously a successful race intermixture between the Spaniard and the American Indian.

There are, of course, some thousands of negroes in Santo Domingo, but they do not appear to have mixed their blood with that of the Spaniard so much as has been the case in the French-speaking portion of the island.

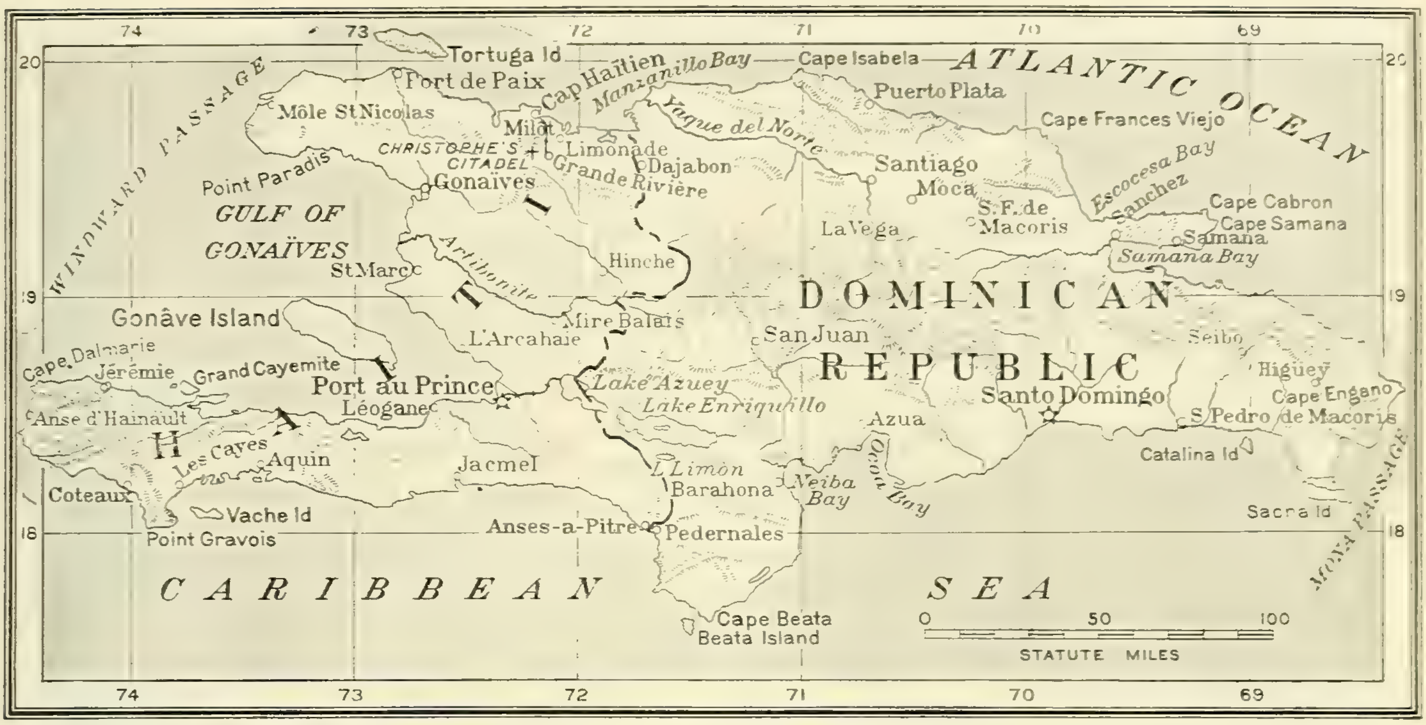
STRANGE PAINTINGS FOUND ON THE WALLS OF ISLAND CAVERNS

In the middle of Lake Enriquillo, on Dominican territory, is a small island which has been acquired by British concessionaires. This island produces rock salt, which is worked for commercial purposes. It has caverns, once inhabited by the aborigines, the walls of which are painted with heads, figures, and objects not easily explained. On account of the human faces which are painted on these rocks, the caverns are known to the Dominicans as "Las Caritas," or "Little Faces."

If the low-lying districts of Haiti are beautiful and attractive in their vegetation and bird fauna, what may not be said about the Haitian mountains. Veritable earthly paradises, perhaps in a way (though less interesting to the botanist) more attractive than the mountains of Jamaica, where there is *too much* vegetation. There has been rather reckless clearing away of forests in Haiti and Santo Domingo, but the result in some cases is pleasing, for it has produced great open spaces on the mountains, which are covered with a lovely carpet of turf, ferns, low shrubs, and lovely flowers.

CRISP ATMOSPHERE, DELIGHTFUL SUNSHINE

Here, in an atmosphere which has all the crispness of temperate North America and the delightful sunshine of an English June, the eye is entranced with the beauty of the landscapes. From a painter's point of view, they are perhaps more wonder-



Drawn by A. H. Bumstead

THE ISLAND OF HAITI, SHOWING ITS TWO REPUBLICS

The Republic of Haiti, which occupies the western portion of the island, has an area slightly less than that of Maryland. Santo Domingo is comparable in size to Vermont and New Hampshire combined. Haiti's population in 1912 was estimated at two and a half millions; Santo Domingo's in 1918 was estimated at slightly less than a million.

ful than anything to be seen elsewhere in the West Indies.

PICTURE SUCCEEDS PICTURE

The extraordinary relief of the surface — tremendous gorges; wall-like mountain-sides; crumbling peaks; zigzag, white-stoned stream valleys; clusters of pines, pillar-like, 200-feet columns of reddish gray stems; the golden candelabra of the yuccas; the acanthus-like foliage of the handsome *Bocconia frutescens,* the scarlet fringes of the bell-like fuchsias, the trailing clusters of rose-pink honeysuckle, the pink flower-sprays of the begonias, the large white rose-like blossoms of the brambles, the vivid blue labiates, the dainty foliage of the dwarf bamboos, and of countless ferns (there are tree-ferns of two or more genera) and of lycopodiums; the emerald-green pastures flecked with vetch and clover and dotted with mulleins having lemon-yellow flowers like the English leopard's bane: all these are elements of remarkable landscape beauty.

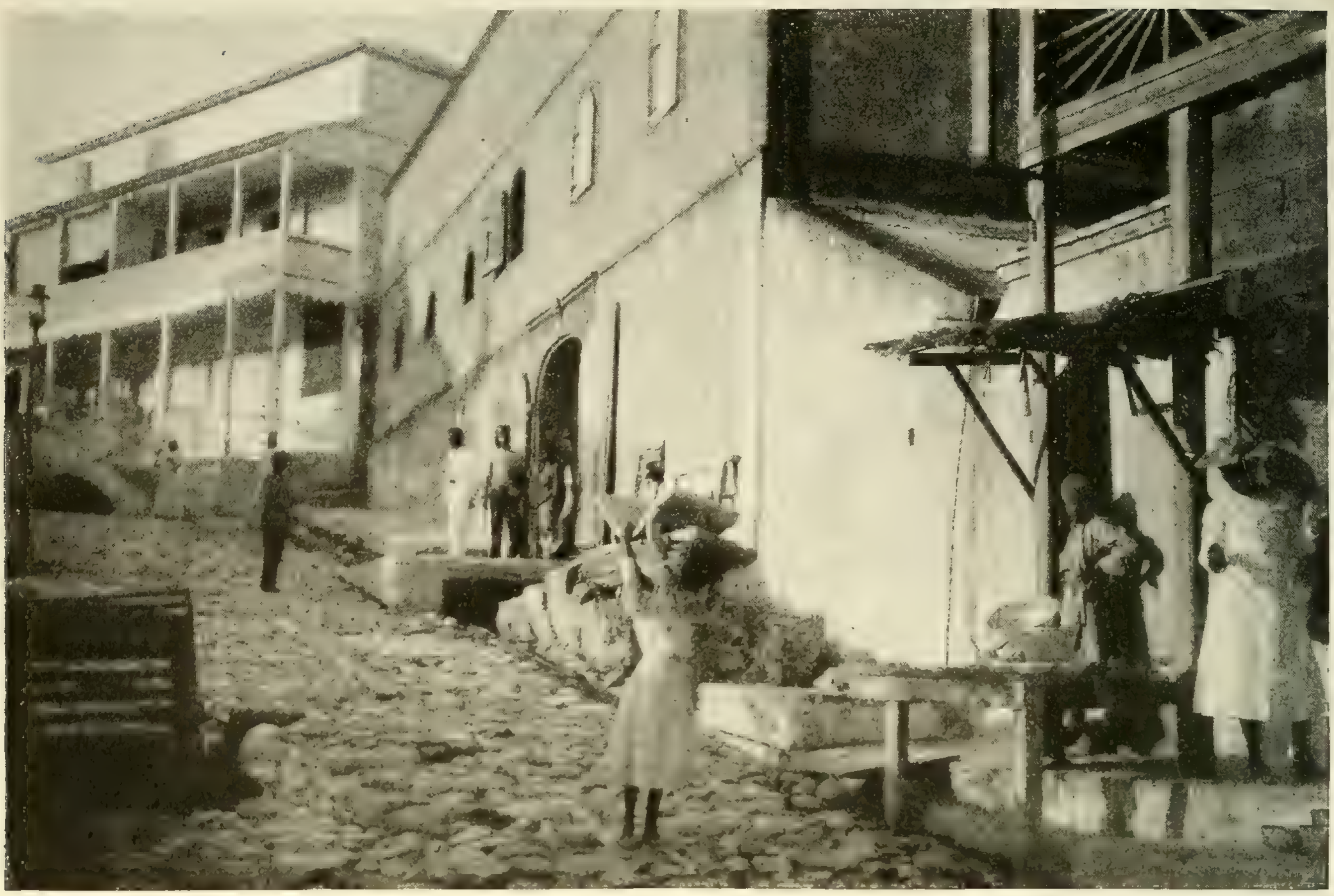
Picture after picture is found, to be realized, perchance, many years hence, when there arises a native school of art and when the educated Haitians of the present day—who can think and talk of nothing but Paris and the beauties of France—will give way to an indigenous race of better-educated Haitians, of no matter what color, who will concentrate their thoughts and their thankfulness on the beauty of their own country, which in its own way has no rival.

One of the elements of delight in the mountain country of Haiti lies in the odor exhaled from these forests of Georgian pines—an odor that never seems to be altogether absent from the exhilarating air.

THE MOUNTAIN PEOPLE ARE A COMELY, VIGOROUS RACE

All this most mountainous region is fairly well inhabited, and the little villages of negro peasants appear on nearly every spur or shelf where there is any level space for cultivation. Here their not-untidy, steep-thatched houses may be seen, generally surrounded with emerald green banana groves, for the banana will flourish up to about 5,000 feet.

The mountain people are a vigorous and comely negro race. The fine physical



Photograph by Mrs. C. R. Miller

THE JAIL AT JACMEL, WHERE MANY POLITICAL PRISONERS DIED, AS A RESULT OF INSANITARY CONDITIONS, BEFORE THE AMERICAN OCCUPATION

development of the men made one regret that they did not revert more to the most defensible African custom of wearing very little clothing, for they would evidently have exhibited forms that would be a delight to the sculptor's eye.

As it is, their clothing is often picturesque, if they can only be induced not to wear a discarded military costume. The head is shaded with a large high-crowned, broad-brimmed straw hat, or rather a hat plaited from dried palm leaves. Very striking patterns of black or red are woven into these hats. The writer of this article brought home a number of Haitian straw hats to England, where they proved to be singularly well adapted to the prevailing mode, and, with the addition of a piece of ribbon or a bunch of artificial flowers, are now being creditably worn in English country towns.

The clothes affected by the Haitian men (putting aside the military uniform for which they all crave) consist of trousers and a rather becoming smock-frock, derived, no doubt, from the French blouse, but completed and embroidered, and resembling very often the smock-frock once worn by the English peasantry.

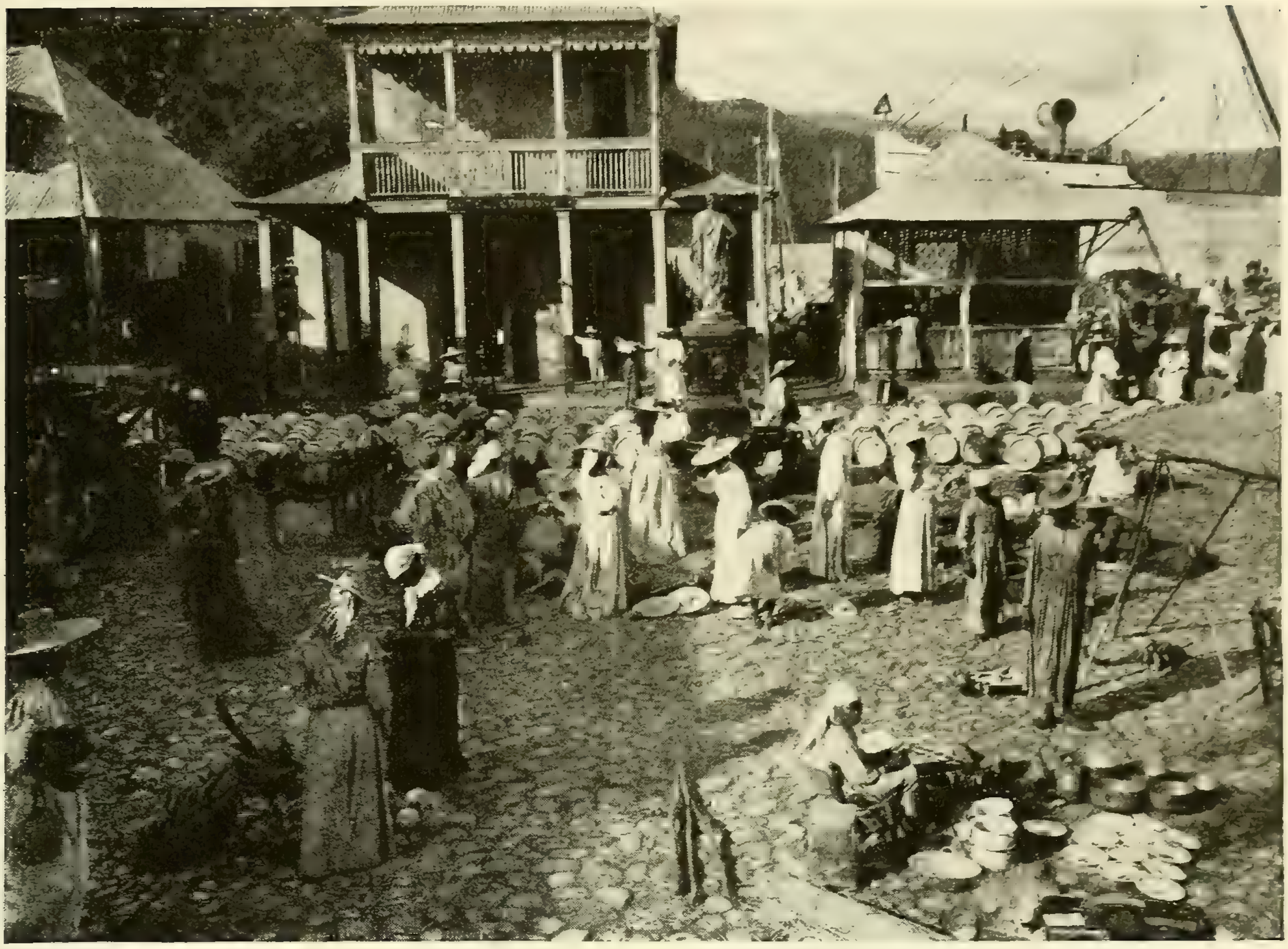
THE BRIGHT KERCHIEF DISTINGUISHES THE HAITIAN COSTUME

The garments of the peasant women are usually long-skirted blue robes, but in any degree of affluence these can be covered with furbelows and lappets. A bright-colored handkerchief is wound tightly round the hair, and over this, for journeying, is poised a broad-brimmed, low-crowned hat which is held on by a leather strap passed under the chin.

It seems to be a point of fashion that this leathern strap shall terminate in two little twiddles of leather, so that the women often look like negro men with sparse, twisted, goatee beards.

As one descends from the austere heights with their classical pine trees, one enters a region of luscious beauty, especially where the hand of the French colonist of the eighteenth century has shaped or adorned the landscape.

The foliage is magnificent and gorgeous in hues. The feathery, pinnate-leaved, golden-flowered, honey-scented



Photograph by J. H. Hare

UNLOADING FLOUR IN A HAITIAN PORT

Note the wares of the Haitian merchant women spread out upon the cobbled pavement—one step farther than the sidewalk shops of New York's East Side.

logwood trees; the tall shrubs of scarlet-crimson poinsettia; the flamboyants, with immense flower-sprays of scarlet and yellow; the glossy-leaved orange trees, hung with fruit (innumerable globes of ruddy orange); the bread-fruit trees, with their enormous digitate leaves of emerald green; the blue-emerald tints of the bananas; the smalt-blue racemes of the Petrea flowers; the sulphur-yellow allamandas; the exquisite lavender blooms of the gliricidia (like wisteria); the immense glabrous, gray-white tree trunks, surmounted by canopies of black-green foliage; the crotons, with their gorgeous leaves of red and green; the hedges of glossy agaves ("Spanish daggers")—all go to form scenes of entrancing beauty, through which wind narrow, but not ill-made, bridle paths, bordered by fantastic, but always pretty, houses, and occasional strange cemeteries, with tombs like goblin dwellings.

In the country towns of Haiti there is always a great central square, in the middle of which stands a rostrum or pulpit of brick or masonry—sometimes stuccoed and gaudily painted in blue and red (the national colors). These rostrums date from French colonial days and were used, no doubt, as they are now, for the making of public proclamations.

Churches are not very numerous, but where they are supervised by French priests they are well and reverently maintained.

PEACOCKS AND PIGS: THE ORNAMENTAL AND USEFUL

Peacocks are fairly abundant throughout the island, and for the beauty they give to its landscapes should be fifty times more numerous.

Of course, there are tumble-down shanties to be seen here and there; yet the glory of the vegetation and the strange forms which it assumes in the urban cactus hedges redeem everything in Haiti from being mean or monotonous. The worst of the squalor there is lovely be-

ON THEIR WAY TO MARKET

side the squalor of a provincial American town or the suburbs and mean streets of an English city.

There are no vultures in Haiti, a negative feature which at once distinguishes the island from Cuba, Jamaica, and the Bahamas. In Cuba, the Bahamas, and Jamaica there is the well-known turkey-buzzard, with its plumage of glossy blue-black and sepia brown, with satin white underside to its wings and a naked head and beak of crimson and white.

In the Eastern and Southern States of the Union and in Central and South America there are other forms of buzzards, mostly the all-black one. But this bird seems never to have existed in Haiti, and those that have been introduced have died out; so that the only scavenger of the island is the pig.

In many parts of the Republic the pig, originally introduced by the Spaniards or the French, has run wild and developed into a miniature black wild boar. In a rather leaner, gaunter type, the pig is a never-absent object from the scenes of town and country, and it is a useful scavenger.

The domestic pig in Haiti is generally hampered by an extraordinary wooden collar, which apparently prevents it from straying too far afield. The same collar is often applied to goats.

The Haitian cattle are usually of a rather Dutch type, perhaps descended from breeds introduced from northern France. The sheep still have wool (which they seem very anxious to shed), and I nowhere saw those actual African forms of hairy sheep which have somehow or other been introduced into Cuba.

The little horses of the country are a most useful type, but the well-to-do people ride handsome-looking Spanish barbs. Horse breeding might be carried on in Haiti to a very considerable extent, as the climate and feeding seem to suit horses remarkably well. Donkeys are less used than mules for purposes of transport.

PORT AU PRINCE A PINK AND WHITE CITY

When one first approaches the capital of Haiti—Port au Prince—by sea, it has a comely aspect in the daytime, with its new cathedral, with the twin cupolas, and its great mass of pink and white houses

Courtesy U. S. Marine Corps

THE OPEN-AIR MARKET AT PORT AU PRINCE

The scene every morning, between 6 and 8 o'clock, is extremely picturesque. Fish, turkeys, geese, ducks, sheep, goats, parrots, and pigeons are here offered for sale, as well as beans, peppers, avocadoes, pumpkins, and quantities of firewood and charcoal.

(interspersed with handsome trees) strewn over the foothills of the southern mountain range (see page 486).

The city, with a population of 120,000, is at the head of a great gulf between the northern and southern arms of Haiti, which Nature had intended to be the imperial naval station of the whole world—a region of sheltered seas, healthy climate, and shores supplied with all that man could desire in the way of wood and water and fertile soil. The access to Port au Prince is protected strategically and meteorologically by the great island of Gonave.

Port au Prince has an admirable water supply from the mountains, based on the old French colonial system of pipes and aqueducts.

The roads of the city are now fairly passable, but prior to the advent of the Marines the tourist not infrequently encountered extraordinary muck heaps in the side streets (with occasional dead donkeys). These were the cause of many diatribes from visitors of an earlier day and were, no doubt, the hot-beds of disease.

Before the days of American occupation there was very little continuity in the sidewalks, so that pedestrians had almost invariably to walk along the road, and thus get in the way of the many vehicles and the still more numerous equestrians. But for the most part the houses of the city are comely in appearance, and Port au Prince may quite hold its own in general appearance and in the amenities of life with other large towns in the West Indies.

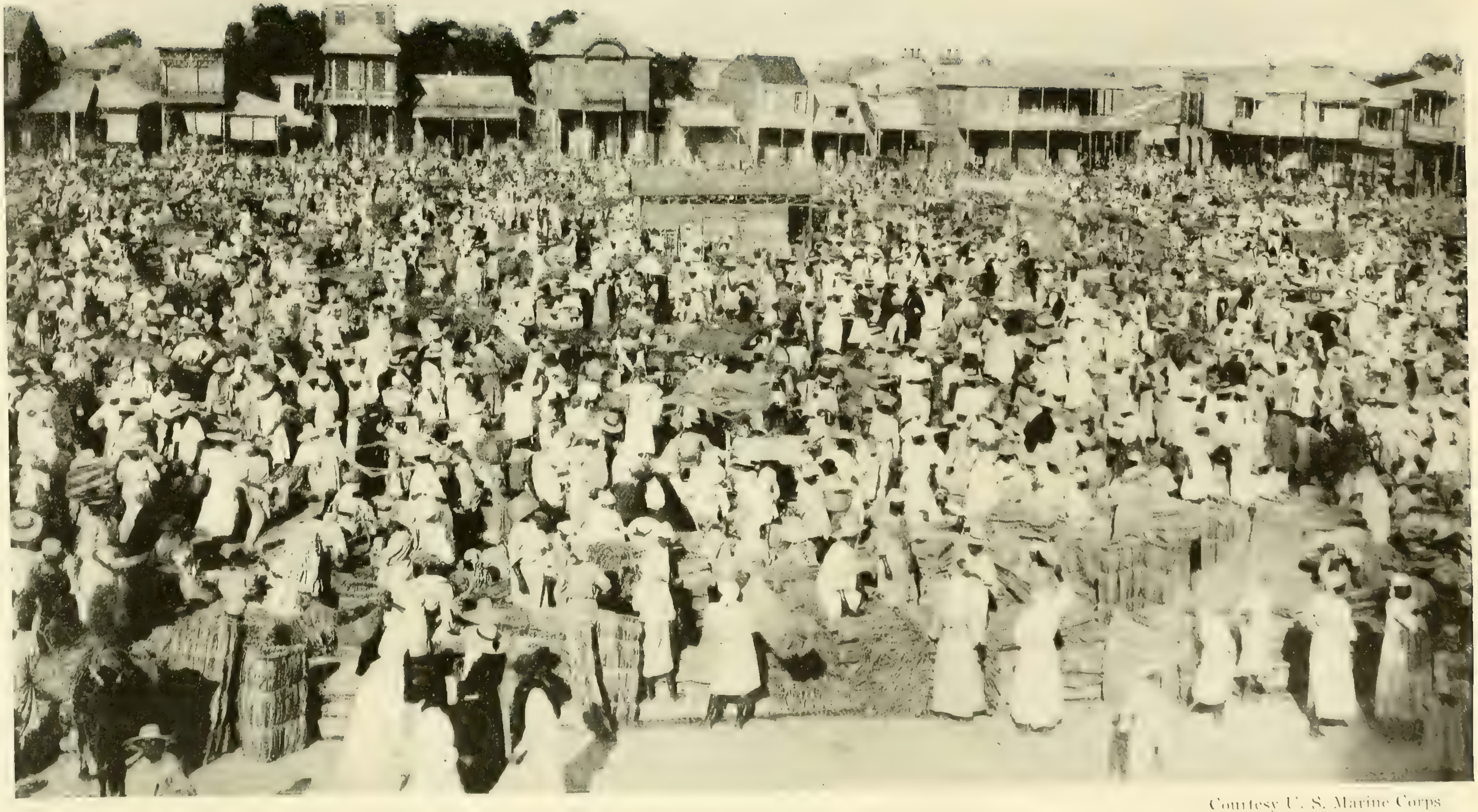
THE TRAVELER FINDS MUCH COMFORT IN HAITI

There are three or four newspapers published daily, which contain an excellent service of foreign cablegrams. There are only two hotels, but both of them are quite tolerable. Indeed, the traveler who may arrive from Cuba will be agreeably disappointed if he thinks to find barbarism and discomfort in Port au Prince (or indeed in any other towns of Haiti).

Courtesy U. S. Marine Corps

A VIEW OF CAPE HAITIEN, ON THE NORTHERN COAST OF HAITI

Twenty miles to the southwest of this port stands Christophe's Citadel, one of the most remarkable ruins of the Western World (see text, page 469).



Courtesy U. S. Marine Corps

PORT AU PRINCE POSSESSES A MAGNIFICENT CENTRAL MARKET, WORTHY OF A BIG FRENCH OR AMERICAN TOWN

It is a good-humored, noisy crowd that gathers here every day. A few policemen stroll about, but their services are seldom required to maintain order. In the old days the place was permeated with soldiers, who exacted heavy toll from the market people.

The native cuisine is far superior to the Spanish cooking of Cuba; it is French, or French colonial, and consequently most appetizing.

Haiti is abundantly well supplied with fresh provisions—excellent vegetables, good beef and mutton, splendid seafood, and delicious fruit; moreover, living is far cheaper than in the United States or Cuba.

HAITI'S LIMITED RAILWAY "SYSTEM"

A railway runs through the streets of the city and extends southeastward as far as the pretty little town of Leogane, passing through the truly lovely suburb Diquiny, an earthly paradise. The railway is farther carried eastward to the shores of Lake Azuey.

The President's palace in Port au Prince was blown up in the revolution of 1912. It was a rather ugly structure of glistening gray white, with apparently a good deal of corrugated iron about it. It contained, however, some fine lofty rooms. Some very handsome buildings formerly existed in Port au Prince to the northwest of the President's palace, but under the rule of Nord Alexis, acts of apparently deliberate incendiarism on the part of the government took place, which really destroyed almost a third of the capital.

To the east and north of the palace is the great open space of the Champ de Mars, which is well suited for the evolutions of troops, and might be made a very comely feature in future by being turfed over and set with beds of flowers. In the middle of this open space is a preposterously vulgar statue of Dessalines, who is regarded as the national hero of Haiti, the people having, with typical ingratitude, put on one side the real great man of their history, the remarkable and noble-hearted Toussaint l'Ouverture.

This tin statue of Dessalines is made to carry a sword in each hand and to support with one arm an enormous painted tin flag, which contains the national emblem of a palm tree, surmounted by bristling cannon and war standards, together with the motto "Liberté ou la Mort!" and "Mourir plutôt que d'être sous la domination de la Puissance."

Port au Prince possesses a magnificent central market, worthy in structure and design of a big French town. The interior is very dirty; and apparently the market dues are sufficiently heavy to deter most of the country people from using the place for the sale of produce.

Every morning between six and eight hundreds of country women may be seen riding into the town on horses, mules, or donkeys, borne sideways between enormous panniers of produce.

Much of the marketing goes on in the open air, and these scenes are extremely picturesque. In one corner a woman in a long robe of deep ultramarine blue may be selling fish of extraordinary loveliness, painted with the colors of the gayest parrots.

Elsewhere there are turkeys, fowls, geese, ducks, sheep, goats, or even green parrots and pigeons for sale; enormous quantities of maize, beans, Chili peppers, avocadoes, pumpkins, ocroes, aubergines, and, of course, firewood and charcoal, or forage for the town-kept horses.

WOMEN PREDOMINATE IN HAITI

It is a good-humored, noisy crowd, not requiring ordinarily any intervention from the few policemen who march about with large scarfs, bearing the words "Force à la Loi." In the old days the crowd, of course, was permeated with soldiers in undress or full uniform, soldiers who, it is said, exacted a somewhat cruel toll from all the market people.

The reason why women predominate among the country folk selling goods in town is that the country men for generations have been afraid to descend from their inaccessible mountains for fear of being impressed into military service, and having to redeem themselves from this slavery by heavy payments.

The military element in the past has been the curse of Haiti. Formerly, from early morning till dewy eve the streets were paraded by noisy military bands; soldiers in uniform or out of uniform begged more or less truculently from the passer by; officers in handsome uniforms were accustomed to dash up and down the streets on high-mettled horses, utterly regardless of the pedestrians. The air was rent by salvoes of artillery or of target practice.

HAITI AND ITS REGENERATION BY THE UNITED STATES

HAITI'S PROBLEM is not one that can be dismissed with a word or cleared up with a stroke of a pen. It is made up of the sum of all the accumulated evils and abuses of more than a hundred fevered, retrograde years—years cursed with tyranny and bloodshed unimaginable; years in which all the plagues enumerated in the litany, of sedition, conspiracy, rebellion, plague, pestilence, famine, battle, murder, and sudden death ravaged the body politic until the tortured tillers of the soil forsook their fields and fled to the hills.

Here, in the elemental wildernesses, the natives rapidly forgot their thin veneer of Christian civilization and reverted to utter, unthinking animalism, swayed only by fear of local bandit chiefs and the black magic of voodoo witch doctors. (See "Haiti, A Degenerating Island," by Rear Admiral Colby M. Chester, in the NATIONAL GEOGRAPHIC MAGAZINE, March, 1908.)

And while the peasants thus took to the bush, the middle and upper class Haitians gravitated to the seacoast towns, where they learned the art of living by the expert exploitation, political and commercial, of the unthinking black animals of the interior.

THE GEOGRAPHY OF HAITI

To understand Haiti's problems, a glance at her location, conditions, and resources and a peep into her history are necessary.

Haiti's history has been remarkable and full of dramatic interest. Physically she is blessed by nature with unstinted wealth. Occupying, with her sister republic of Santo Domingo, the second island of the Greater Antilles, once known as Hispaniola ("Little Spain"), Haiti is situated about 500 miles southeast of Key West, Florida, while Cuba lies about 50 miles across the Windward Passage to her west.

The republic's eastern boundary is made up of a series of rivers and hills, beyond which lies Santo Domingo, while farther to the east lies the third island of the group, Porto Rico.

Haiti has an area of about 10,400 square miles, being about one-fourth larger than the State of Massachusetts. The twin republic, Santo Domingo, which occupies the remainder of the island, is nearly twice the size of Haiti (see map, page 489).

Situated in the lap of the tropics, Haiti possesses every natural advantage required to make her a treasure-house of riches. In her valleys and plains near the seacoast alluvial soil of immense depth and richness brings forth, with the roughest tillage, crops of wonderful bounty.

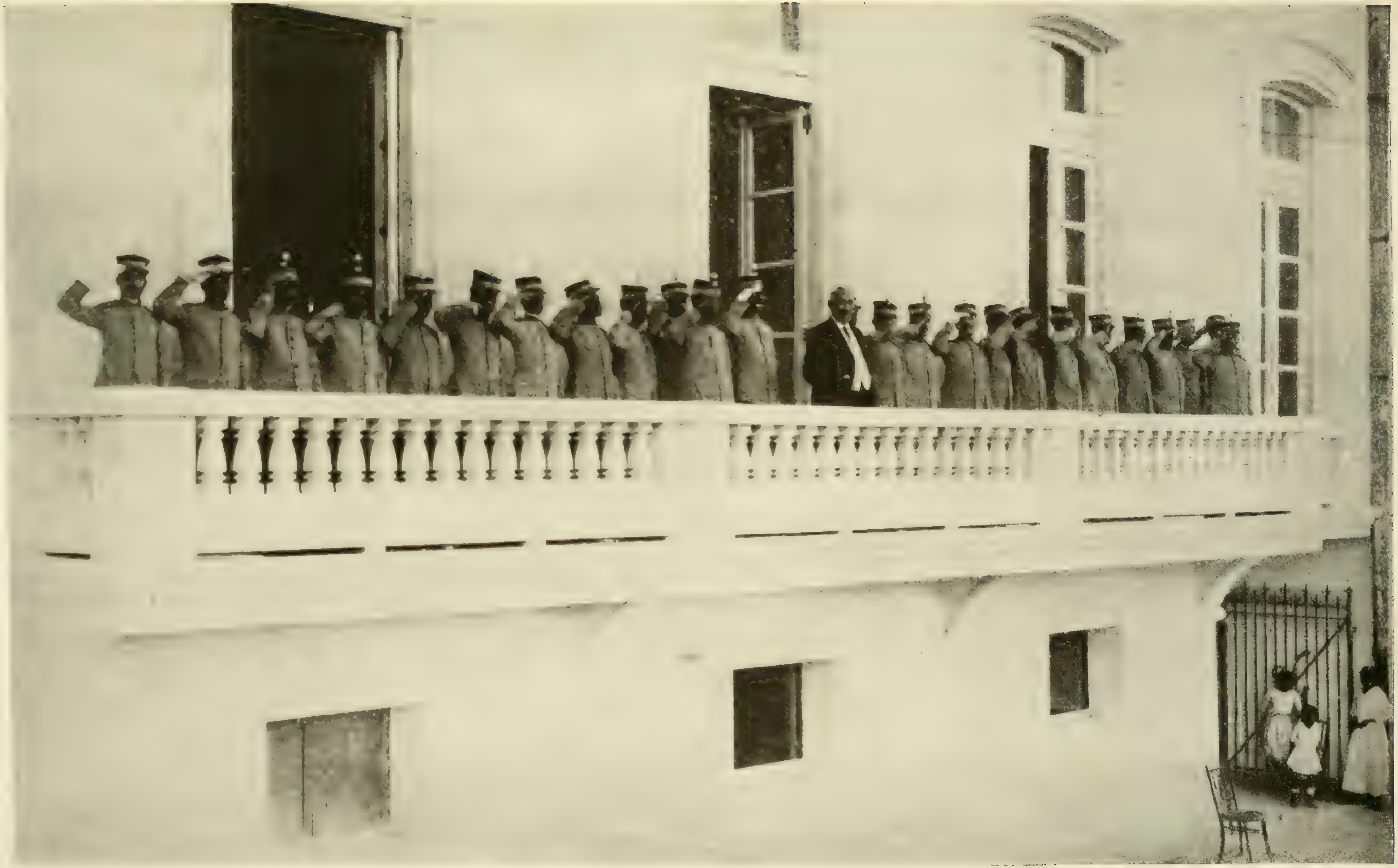
Sugar-cane, cotton, and cocoa are produced in abundance, while Haitian coffee is known to epicures the world over for its richness and flavor. Tropical fruits of all descriptions grow wild, and naturalists declare that more than seventy-five food-plants, cereals, legumes, etc., flourish here.

Higher in the hilly plateaus of the interior, vegetation of a different sort is encountered. Wheat, rye, barley, and other products of the temperate zones are found, while on the mountains, some of which reach an altitude of nearly ten thousand feet, flourish extensive timber forests.

Coal, iron, copper, and other minerals have been found in quantities which promise to pay richly for working, while in the days of the Conquistadores the gold and silver mines of the island are said to have yielded to the viceroy of the Spanish king more than $30,000,000 worth of the precious metals in a single year.

RICH IN TRADITION AS WELL AS IN MATERIAL WEALTH

Rich as the island is in material wealth, it is even richer in history and tradition. Here Columbus landed and here, in what is now Santo Domingo City, he pined in prison, and here, after his death, his



Courtesy U. S. Marine Corps

PRESIDENT DARTIGUENAVE OF HAITI AND HIS AIDES—24 GENERALS

This chief executive has established a record for length of service. Thanks to the stabilizing influence of the American marines, he has been in office since his election, August 12, 1915. Of the twenty-five presidents who held office in Haiti from the founding of the Republic to 1903, fifteen were driven out of office by revolution, three died in office at the hands of assassins, three died in office from causes unexplained, one committed suicide, and one died of wounds received from revolutionists. Only one finished his term and retired to die a natural death (see pages 501 and 503).

bones were brought to be buried in the soil of the new world which he had discovered. Here Pizarro and Cortez ruffled in the streets before they set out to carve new empires for Spain out of Peru and Mexico, and here the capital of New Spain waxed and prospered in learning and culture.

Then came stormy days. All through the sixteenth century English buccaneers, ravaging the Spanish Main, harassed its commerce and harried its cities. French freebooters came also, forming a piratical settlement on the tiny Tortuga Island just off the coast, from which they erupted about 1630, driving the Spaniards from the part of the island which is now Haiti and also from most of what is now Santo Domingo, until in 1775, by a formal treaty, France obtained the whole of the island.

Under the French rule, civilization and prosperity on the island rose to a high pitch. Roads gridironing the agricultural districts were constructed and magnificent chateaux, the homes of landed proprietors, dotted the hills and valleys. It was this period which marked the complete disappearance of the Indians from Haiti and the multiplication of the number of negro slaves imported from Africa, who performed all work in all parts of the island.

Toward the close of the eighteenth century disorders arising out of the revolution in France and its attendant wars shook the island, weakening the whites, until at length the negro slaves arose and with indescribable atrocities wiped out almost the entire white population.

France, though filled with horror, was in the midst of the Napoleonic wars and had few troops to spare for a transatlantic campaign; so, after desultory fighting, the rebels achieved independence.

BLACK LEADERS PROCLAIM THEMSELVES KINGS

A republic was proclaimed and a president was elected. His first act was to proclaim himself emperor in Port au Prince. Not to be outdone, another negro leader in the north proclaimed himself king in Cape Haitien, and set up a system of nobility with eight dukes, including a Duke of Limonade, thirty-seven barons, and other lesser lights, all colored relatives of the monarch. For the story of this remarkable man, Henri Christophe, see pages 469 to 482.

From that time, retrogression to the present followed in natural steps. Social disintegration continued apace. All semblance of order in the interior vanished. Bands of armed negroes roamed the countryside, pillaging and burning as they went. Each negro who could find arms for himself and a few followers proclaimed himself king or president or general, recruited himself an "army," and set out on a career of conquest.

A PICTURE OF ABANDONED CIVILIZATION

At first the magnificent homes and palatial villas of the former French land-owners offered rich loot, but when all of these had been sacked and burned, nothing of value remained, and as the faithful had to be fed, the "generals" turned their attention to those of their own race who after the uprising had chosen to continue to till the fields and were endeavoring to live as they had lived under the French.

Repeated robbery soon reduced these to ruin and desperation. The men who possessed the necessary initiative and education removed to the coast cities, where life was more secure, while the rest left their fields and hid in the impenetrable fastnesses of the hills.

Abandoned by their owners, the comfortable dwellings of the island went to rack and ruin. Weeds overgrew the cultivated lands, and in a generation the fertile fields of the island, which had once produced magnificent crops, lapsed to the tropical jungle from which they had been redeemed many years before.

Seeds sprouted and trees grew in the once famous roads, while to the eye of the occasional traveler the island presented a melancholy picture of the retrogression of man, with its houses and mansions, so substantial that fire and pillage could not destroy them completely, still standing, its magnificent roads overgrown, and its fertile fields a jungle waste—the ruin of an abandoned civilization. In the surrounding wilderness the natives lived,

Courtesy U. S. Marine Corps

A BAND OF HAITIAN BANDITS BEING BROUGHT INTO PORT AU PRINCE UNDER GUARD OF A SQUAD OF MARINES

amid dirt and squalor, in tiny huts or huddled together like animals, in the open, when night overtook them on their rude trails.

The bandit bands thrived and increased in number and boldness, gaining the name "cacos," the caterpillars, because, like caterpillars, they covered the earth at certain seasons and, like caterpillars, they ate everything. The bands ranged in number from ten to several hundred, each under a chief hostile to every other chief, united only in the desire to plunder and rob, and stopping at no crime or atrocity.

CACO BANDS CAUSE WOMEN TO PREDOMINATE IN HAITI

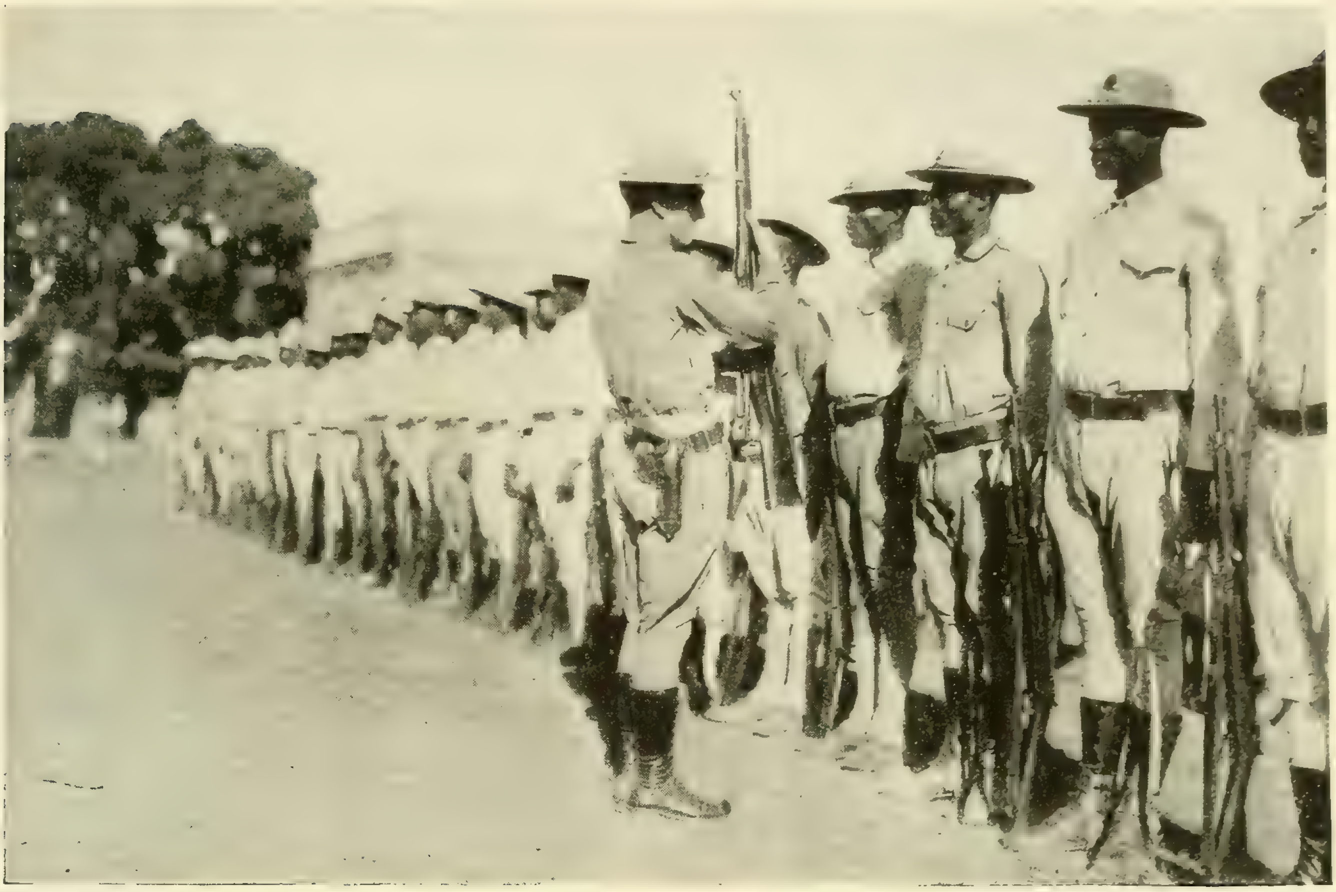
When it became difficult to obtain recruits for these caco bands, all male natives found were pressed into service, from which grew the Haitian custom whereby all peaceful males kept out of sight as much as possible, and nearly all work and barter was carried on by the females.

The slaughter of males by war and the feuds of the bands also kept down the number of men, so that at the time of the landing of the American forces it is estimated the females outnumbered the males by a considerable ratio.

HUMAN SACRIFICE WAS PRACTICED

In this carnival of barbarism religion also had its place. Cannibalism and the black rites of voodoo magic of the African jungles were revived in all their horror, and the sacrifice of children and of animals to the mumbo jumbos of the local wizards was practiced in the appropriate seasons. Poisoning and praying to death became the mode, and missionaries to the island report their belief that fully four-fifths of all the population are either active believers in or hold in fear the spells of the witch doctors.

So much for the interior. In the cities of the coast another condition prevailed. Here an element made up of the mulattoes and the more intelligent negroes ruled, and an attempt was made to keep up the forms of government and maintain order. By the trade which they carried on between the hinterland and the nations of Europe and North America,



Courtesy U. S. Marine Corps

HELPING THE HAITIAN TO HELP HIMSELF: AN AMERICAN MARINE OFFICER INSPECTING A COMPANY OF THE HAITIAN GENDARMERIE

As in the Philippines, the American-trained constabulary, recruited from the better type of natives, has proved highly efficient in the maintenance of order. To assist in improving the health of the Haitians and in the interest of modern sanitation, a corps of native trained nurses has been developed by the American sanitary authorities. American physicians and nurses have found the Haitian women apt pupils in the study of the profession of nursing. In coöperation with local physicians, the Americans have also trained a number of native men who are now filling acceptably positions as health and sanitary inspectors.

certain families waxed rich and prosperous.

TRAGEDY HAS STALKED IN THE TRACKS OF HAITI'S PRESIDENTS

Coalitions of such families would get together, "elect" a president, rifle the treasury, negotiate such foreign loans as could be floated, and fill all public offices with their supporters. Then their interest in the government would cease and a new coalition would be formed, which in turn would propose some new "liberator of the republic," hire caco bands, start a revolution, kill or banish the president at that time in office, and install the new hero. Then the whole performance would start anew, practically all of them coming to the same end.

Of the twenty-five presidents who held office in Haiti from the founding of the republic to 1903, fifteen were driven out of office by revolutions, of whom thirteen were banished to foreign lands, while two were allowed to remain in Haiti to die, which they did quite promptly.

Three died violent deaths in office at the hands of assassins.

Three more died while in office from cause or causes unexplained.

One died of wounds received from revolutionists and one, by committing suicide, disappointed a successful rival, who had planned to make his death a national festival.

One of the twenty-five, who must have been a remarkable man, finished his term and retired from office alive and well, to live to a respectable age and die in peace in his bed!

Thus the procession of presidents passed. Every new president was hailed as a savior and every ex-president execrated as a monster—usually with too

MARINE CORPS BARRACKS AND THE PRESIDENT'S PALACE: PORT AU PRINCE, HAITI

Courtesy U. S. Marine Corps

THE HARBOR OF PORT AU PRINCE AND THE DOCK WHERE AMERICAN TRANSPORTS LAND much truth. Some of the traits of these rulers of Haiti are worthy of note. Few of them could read and write. Most of them were intimates of the voodoo priests and doctors and many of them were accused of being practitioners of the highest voodoo rite—cannibalism. Only two of her presidents, Soulouque and Salnave, were generally admitted cannibals and adepts in the feasts which followed the killing of "the goat without horns," as the human victims of the voodoo ceremonies are commonly known, but many others were accused.

Where else on earth could the casket containing the remains of a ruler lying in state in the cathedral be riddled with bullets, or the remains of another ruler be drawn and quartered and the parts dragged through the streets, providing a Roman holiday for a frenzied populace?

After 1903 the open season on presidents became more open than ever, and the procession of revolutions speeded up considerably, the events occurring which brought about the landing of the American forces in 1915.

Administration after administration came into power, each obtaining new loans from European and American bankers and vanishing in turn in revolutionary smoke, leaving only unpaid loans to mark their passage. By 1911 the procession of revolutions had attained such headway that the average official life of Haiti's presidents was less than a year after taking office.

PRESIDENT LECONTE IS BLOWN UP

In August, 1911, the president, General Simon, was overthrown by a revolution, and Cincinnatus Leconte was elected to the office. Leconte lasted until January, 1912, when he attempted to oust a number of incompetent office-holders. Then the evicted ones and their friends procured the aid of the bands of cacos, put the federal troops to flight, surrounded the Presidential Palace, and when Leconte refused to surrender, blew up president, palace, and guards together.

After Leconte's tragic exit, Tancrede Auguste was elected, in August, 1912. He was suspected of being at heart a reformer and was poisoned about eight months after taking office. Shortly after Auguste's death, in May, 1913, Michael Oreste became president. Oreste didn't tarry long in the presidential chair, however. When, in January, 1914, a revolution was started with the avowed intention of adding his scalp to those of other late lamented presidents of Haiti who had been run over by revolutions, he forestalled the revolutionists by emigrating hastily to Jamaica.

A leader named Orestes Zamor next took up the presidential burden. He took office February, 1914, and was added to the list of ex-presidents of Haiti in October of the same year. He was thrown into prison, where he was murdered a few months later because it was feared that he might escape and resume political activities. Zamor was succeeded by Davilmar Theodore, who lasted from November, 1914, to February, 1915, when he was overthrown and succeeded by Vilbrun Guillaume Sam.

WHOLESALE SLAUGHTER OF HOSTAGES

A few months later the chronic revolution made its appearance and the cacos were mobilized against Sam by one Doctor Bobo. Sam, however, was a determined soul and decided not to become an ex-president without a fight. He knew that the revolution was stirred up, financed, and the cacos egged on by wealthy and influential families in his capital city of Port au Prince, and he determined to strike at the root of the trouble. Accordingly, he threw into jail more than 160 of the leading men of the town and announced that unless the revolution subsided there would be vacant chairs in the circles of many of Haiti's first families.

This action, instead of quieting the revolutionists, excited them to greater fury, and new uprisings broke forth. Whereupon the president's threat was promptly translated into action, and all of the hostages, including many of the most prominent men in Haiti, were murdered and parts of their mutilated bodies exhibited.

OUTRAGE TO FRENCH LEGATION PRECIPITATES AMERICAN INTERFERENCE

Shortly after this slaughter, in July, 1915, Sam's own turn came. Overthrown and deserted by his adherents, he fled to the French legation, asking protection.

Courtesy U. S. Marine Corps

RECALCITRANT NATIVES FORCED TO FOLLOW PEACEFUL PURSUITS

The striped apparel and the armed guard in the background explain why these particular Haitians are engaged in the useful occupation of making straw hats rather than roaming the wilderness as members of "caco" bands (see page 500).

Ascertaining his whereabouts, however, his foes marched to the legation. Disregarding the protests of the French minister, they broke in and dragged Sam forth, killing him and sending his hands and feet and other portions of his body on spears and bayonets to different quarters of the city. An eye witness of the tragedy tells how the progress of several processions through the city could be followed by the cries and shouts of the rejoicing, blood-maddened mobs that followed each grewsome relic.

It was this action which finally forced the landing of American troops in Haiti. Traditionally opposed to interfering in the affairs of its neighbors, the United States had stood for years between the little black republic and the nations of Europe when loans were due and unpaid or when citizens of foreign nations were molested. Urging the sanctity of the Monroe Doctrine, our government had repeatedly settled disputes and adjusted matters so that Haiti might receive extension of credit from its creditors and avoid the forcible coercion its acts threatened to provoke.

The violation of the French legation, however, brought matters to a climax. The French Government put the problem squarely to our own authorities and demanded either that we take action or that they be permitted to do so themselves.

On being assured of our intention to handle the situation, the French contented themselves with landing a small armed guard for the purpose merely of satisfying their national honor by observing the form of landing an armed force on the soil of the nation which had violated the sanctity of their legation.

CHAOS EVERYWHERE WHEN THE UNITED STATES INTERVENES

Accordingly, in July, 1915, American marines and bluejackets were landed in Port au Prince and the United States formally took over the task of bringing law and order and peace to that distracted land.

It is difficult for an American to comprehend the situation which existed in Haiti when our troops first landed. There was no such thing in the island as law and order, or security either of life or property. Armed bands ranged the hills in the interior and robbed all whom they met, leaving a trail of murder and burned villages as they moved from place to place.

In the cities the situation was a little better, but during the period of each revolution the cacos from the hills invaded the towns and murder and destruction of property ensued.

THE ISLAND RAVAGED BY DISEASE

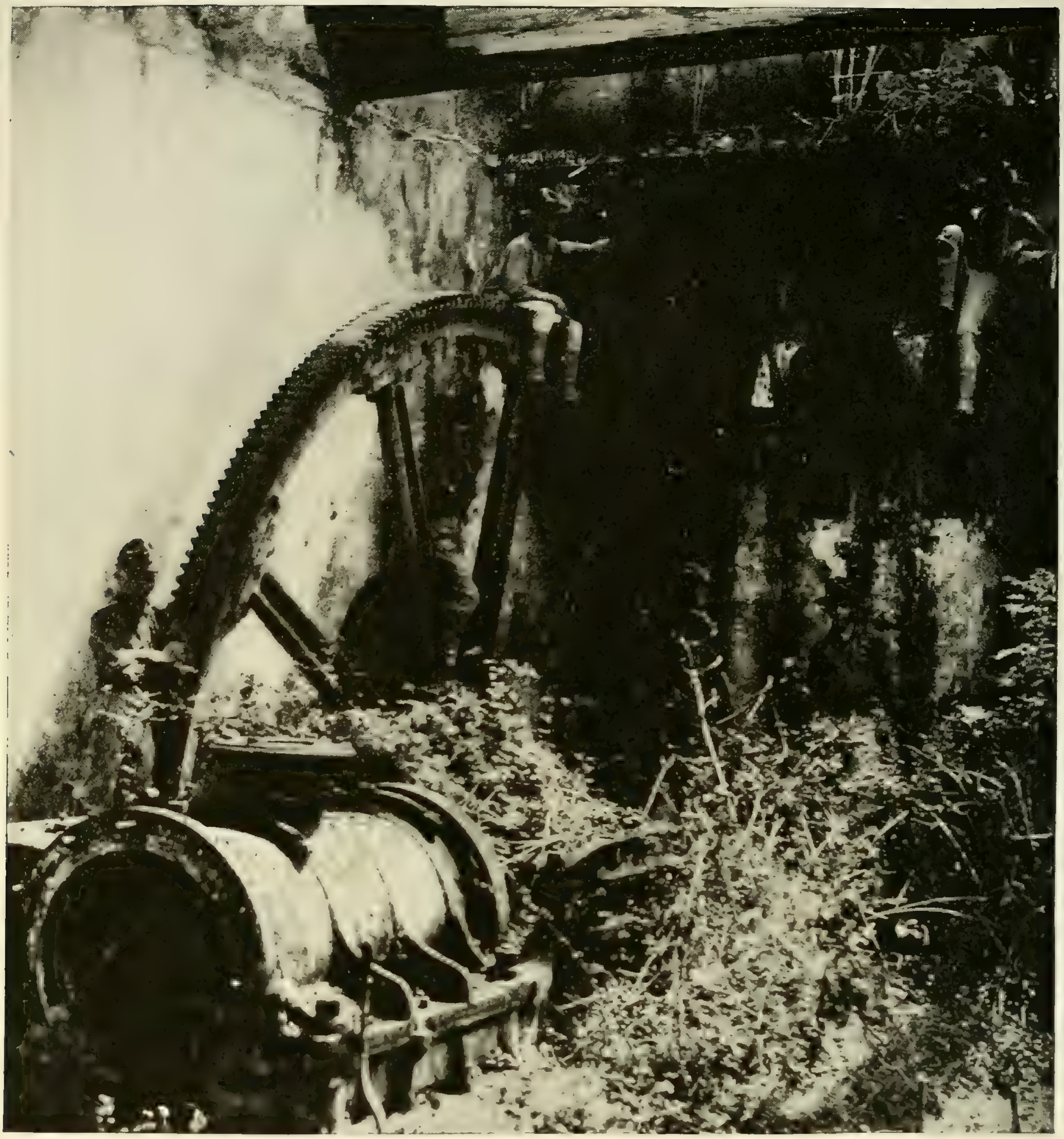
Disease ravaged the island, both the interior and the coast, unchecked. The plague made its appearance at frequent intervals, yellow fever and smallpox ravaged the lowlands, and malaria, the scourge of the tropics, was always present. It is estimated that 87 per cent of the entire population were infected with contagious diseases. Less than 3 per cent of the people were able to read and write and practically all of these were located in the cities of the coast. In the interior, one might travel for days without finding a Haitian capable of even signing his own name.

Due to the instability of government and universal insecurity, banking institutions ceased to function. Virtually no loans were made and business was at a standstill. Chaos reigned in all departments, and to all appearances the entire structure of life in Haiti was on the verge of dissolution. This is a true picture of conditions in Haiti when the United States forces first landed. It is not an exaggerated picture—in fact, many details are omitted which are not suitable for publication in the United States.

Those who desire to confirm the statements made herein and to go further in the study of Haiti and its problems will be well repaid by reading any of the standard works on the subject, such as the classic history of Haiti, "The Black Republic," by Spencer St. John, or that of Marcus Rainsford, both eminent British writers.

After slight skirmishes order was established in Port au Prince by the marines and bluejackets landed in July, 1915, and marines landed in other cities quickly established conditions of law and order along the seacoast.

Meetings of the Haitian Congress were held and a new president, Dartiguenave,



MATERIAL EVIDENCE OF SANTO DOMINGO'S TROUBLOUS PAST

Broken machinery, rusting within the shattered walls of an old sugar mill, mutely tells the story of uprisings on the island of Haiti before the American occupation.

was elected. This gentleman enjoys the distinction, unique in Haitian history, of holding office, undisturbed by revolution or assassin, for a period of more than five years. At the present writing he is still president of Haiti and is not only alive, but is in the best of health.

In November, 1915, both houses of the Haitian Congress ratified the treaty with the United States establishing a virtual protectorate by the United States over Haiti. This treaty was also unanimously approved by the U. S. Senate and ratified by the President in March, 1916.

Following the election of Dartiguenave a presidential proclamation was issued offering amnesty to all political offenders who would give up their arms and return to peace and industry, and a special appeal was made to all the caco leaders to dismiss their bands. A number of them did so, and they received full pardon, while a vigorous campaign was organized against those who refused to come in.

A force of about a thousand marines was busily engaged for several months, at the end of which time Dr. Bobo, the principal leader of the cacos and revolu-

LEARNING LABOR-SAVING METHODS OF ADVANCED CIVILIZATION

Haiti is unequivocally a black republic. For a century there has been warfare between the blacks and mulattoes, with the blacks triumphant.

tionists, was driven out of Haiti and all of the larger bands of cacos were dispersed, as well as a majority of the smaller ones.

A NATIVE GENDARMERIE ORGANIZED WITH THE AID OF MARINES

Thousands of sabers, guns, and revolvers, from the muzzle-loading flintlocks of Spanish days down to the late model Mausers supplied by German conspirators, were captured and dumped into the bay, and, for the first time in its history since the French were driven out, the island enjoyed peace and security of life and property.

To insure the maintenance of order and also to educate the Haitians in the preservation of law and order, a gendarmerie was authorized by the President of Haiti. This gendarmerie is, as its name signifies, nothing more nor less than a police force. It is made up of native Haitians officered by American marines. It has proved an exceedingly useful and efficient force and has been maintained under thorough discipline since its organization.

A NEW ORDER OF CLEANLINESS PREVAILS IN HAITI

"In addition to establishing law and order and security of life and property in Haiti, the United States forces have cleaned up the island in matters of sanitation. Quarantine has been established and visitations of the plague rendered impossible. Yellow fever and smallpox have been wiped out and malaria greatly reduced, while the members of the Marine Corps and the gendarmerie have been and are doing all that is in their power in behalf of general education along lines of modern sanitation" (see page 510).

To the gendarmerie came also another important function. Shortly after its formation its members were made the official paymasters to all Haitian country officials. In this manner graft which had thrived for a century was eliminated.

According to the old Haitian custom, funds for the payment of country officials were delivered to the native head of each district. These native heads would subtract from the total whatever percentage they considered their proper share and then pass on the remainder to the subheads. The subchiefs then in turn would deduct their levy, passing on anything which might remain.

By the time the office-holders and public servants in the country districts were reached little or nothing would remain of the sum appropriated for their payment. As a consequence, since these officials received little or no pay, they rendered practically no service in return.

Under the gendarmerie all this was changed. The gendarmerie officers, who were marines, would deliver to each official his proper pay and allow none to take more. As a consequence, the petty officials who do the actual work of government are now better satisfied than at any other time during the history of Haiti and are trying to render good service.

THE NOTORIOUS CHARLEMAGNE'S REBELLION

Since the original campaign, in which the revolutionists were put down and the caco bands broken up, order has been the rule in Haiti, although there have been several occasions when the fires of cacoism have flared up and considerable local disturbance has resulted.

Much difficulty arose when the United States entered the war against Germany, and Haiti also declared war upon the Central Powers. By that action all Germans were interned and prohibited from conducting their usual activities. As a result the Germans, who had previously possessed great influence in Haiti, were much incensed and endeavored by every means in their power to create disorder. The cacos were stirred up and arms and ammunition supplied them, and every effort was made to employ the German propaganda machine in the United States to create a situation embarrassing the American forces on the island.

One of the incidents arising from this trouble was the attempted rebellion headed by the notorious Charlemagne, who escaped from prison and assembled a large band in the hills of north Haiti.

A man of considerable and unscrupulous cunning, Charlemagne exhibited much intelligence in securing supplies and ammunition from Germans and others interested in promoting disturbances. Due to his military skill and the modern equipment with which his bands were provided, a strenuous campaign was necessary to overcome him.

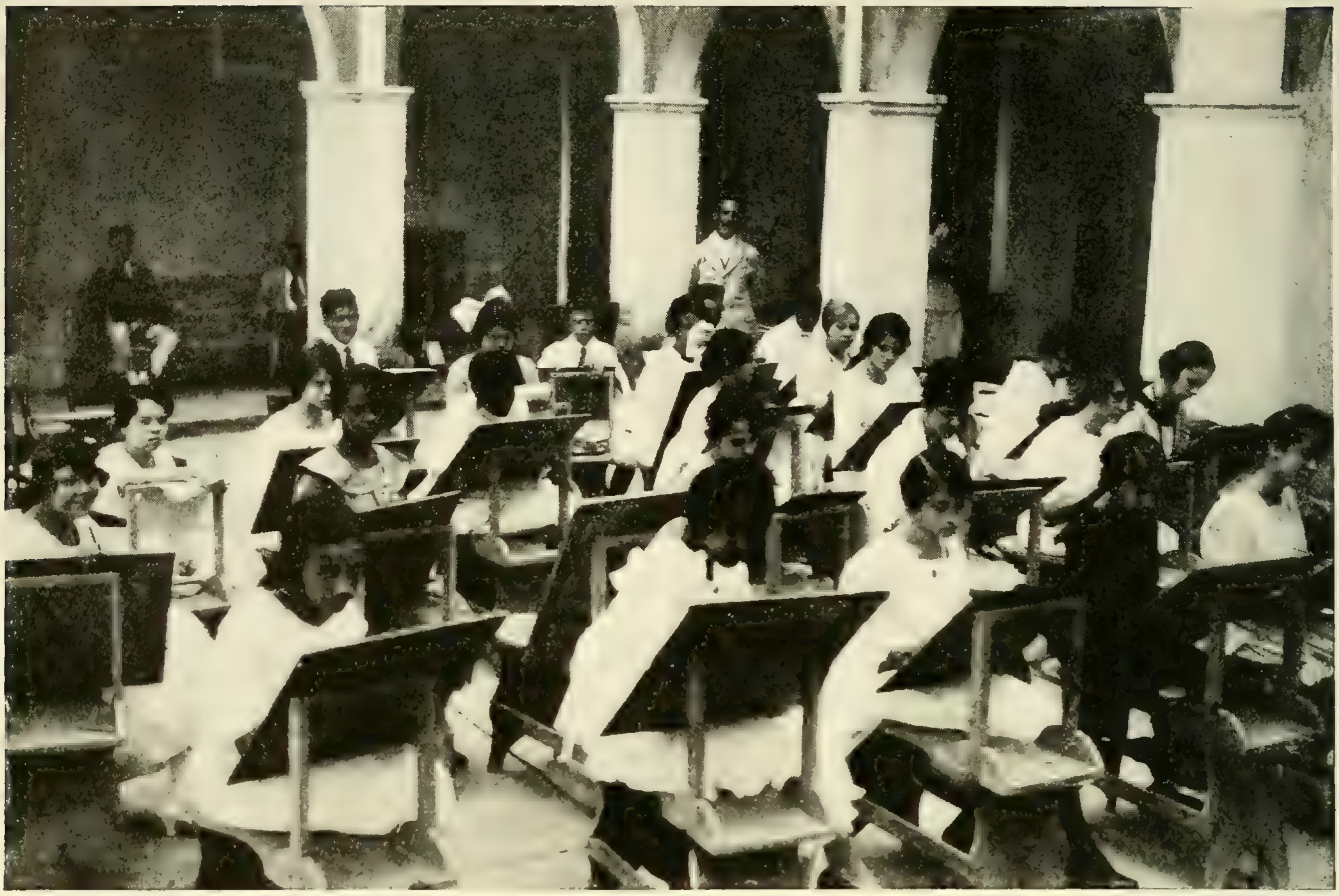
It was during this campaign that two Marine Corps aviators, Lieut. Edwin G. McFayden and Private Clarence E. Morris, were forced to land near Maissade (November 3, 1919). Lieut. McFayden told Private Morris to stay with the airplane while he went for succor. The landing had been made in the center of a clearing, and he thought that with the airplane's machine gun Private Morris could hold his own until relief came. But Morris got a Haitian to carry the machine gun for him, and was starting back to camp afoot, when the insurgents swooped down upon him, killed him, disembowelled him, and wound his viscera around the machinery of the aircraft. His body was then burned, only the skeleton remaining when another airplane came to succor the disabled one.

Charlemagne and his successor, Benoit, were finally killed and their bands dispersed.

Since that time there has been no disturbance in Haiti. As an evidence of the confidence of the Haitians in conditions, the President recently made a journey from one end of the island to the other in an automobile with only half a dozen companions.

The novelty of this action will be appreciated when it is understood that in the days before the marine occupation no president of Haiti ever left his presidential palace without a guard armed to the teeth and no president went a day's journey into the country without his entire guard, which consisted of 2,000 infantry and several hundred cavalry.

In the five years which have elapsed



THE DRAWING CLASS IN ONE OF THE SCHOOLS OF SANTO DOMINGO

The education of nearly 110,000 Dominican children is in charge of an American colonel of marines. Drawing from models is part of the instruction in the higher grades.

since the American occupation, one thing at least has been achieved. Peace and security of life and property have been given to this island republic, which before the American occupation had not known peace since the overthrow of the French, one hundred years ago.

In addition to establishing law and order and security of life and property in Haiti, the United States forces have cleaned up the island in matters of sanitation. Quarantine has been established and visitations of the plague rendered impossible. Yellow fever and smallpox have been wiped out and malaria greatly reduced, while the members of the Marine Corps and the gendarmerie have been and are doing all that is in their power in behalf of general education along lines of modern sanitation.

Roads have been built from one end of the island to the other and new roads are in process of construction which will render communication easy and possible to all points.

In their work of sanitation and reform, the Americans have been hampered by the fact that they are not officially part of the Government of Haiti, and can do nothing in themselves, but must work by dvising the Haitian officials.

Not the least of the many improvements effected by the Americans has been the cleaning of the ports of Port au Prince and Cape Haitien, and the building in each of these places of modern harbors capable of handling the trade of the country. Before the coming of the Americans both of these harbors were in an indescribably filthy condition.

Both ports were unsafe for vessels in many respects, and were festering sores of corruption, full of refuse and dead animal matter, giving forth an odor noticeable many miles at sea. Under the American occupation the ports have been cleaned up and odors eliminated, while concrete wharves and docks have been built which enable steamers to dock for receiving and discharging cargoes with safety and facility.

In addition to sanitation and road-building, street-cleaning has been undertaken in all the towns, sewerage plants installed, in many cases water plants put into operation, and sanitary regulations put into force.

To assist in the future health and sanitary work of the Haitian nation, a corps of Haitian trained nurses has been developed by the American sanitary authorities. American doctors and nurses have trained Haitian women in the profession of nursing, and, in coöperation with the local physicians, have instructed a number of men sufficiently to enable them to fill acceptably positions as health and sanitary inspectors.

Begun in 1917, this work has progressed favorably to the present. The Haitian women in particular have proved adept pupil nurses, and at present there are several hundred qualified for service in the hospitals of the island and to perform all the duties of the nursing profession in their community.

Hospitals have been built and public works of all sorts undertaken. Not the least of these is the reform of the Haitian prison system. Formerly the prisons were chambers of horrors, where Haitians lay in chains and irons, covered with filth and vermin, without care of any sort. Now the prisons are as clean and sanitary as the barracks of the gendarmerie, who have charge of prison work, and instead of being kept in confinement, the prisoners are put to work on public improvements, for which work they receive regular pay.

Many of the prisoners leave their places of confinement with great regret when their sentence is finished, and there have been quite a number of Haitians who have refused to leave their jails and have committed minor offenses in order to be returned following their release.

In summing up what has been done in Haiti and what must be done if the Haitians are to be enabled to reach the point where they can attain a suitable government and take their place as one of the civilized nations of the world, it must be admitted that much remains to be accomplished.

The United States forces have established law and order in Haiti, a condition which has not existed for more than a century, but little progress has been made toward educating the Haitians in the art of self-government. If the Americans were withdrawn from the Haitian government today, a speedy relapse to the conditions which preceded the intervention would follow.

A DIFFICULT LANGUAGE PROBLEM

In solving Haiti's problems, the first requirement is popular education for the average Haitian. The subject of educating the Haitians is one hedged in with the greatest difficulties, because the language of Haiti is not a written language, but is a development of the negro tongues spoken by the African tribes from which the Haitians are descended.

This language is called creole by the French, and it contains a few French words. It bears no relation to French, however, and a Frenchman is no more able to speak or understand it than an American. Indeed, it varies much in different districts of Haiti and a native of one section has great difficulty in understanding the inhabitants of another. Only a small percentage of the Haitians speak French and even fewer speak English.

The problem of educating the Haitians to read and write is accordingly extremely difficult. Either an alphabet and a way of writing their native tongue must be devised or the entire nation must be taught to speak French or English.

Obviously either of these alternatives presents a task of extreme difficulty, but one or the other must be done before substantial progress can be made by the Haitians toward civilization. One of the greatest services which the United States could render Haiti would be the appropriation of a considerable sum to be applied to education in that republic. Under such an appropriation American teachers could be sent to Haiti, Haitians educated in the United States, and a vigorous campaign conducted.

Such a campaign would parallel the educational work done by the United States in the Philippines, where the problem was largely the same as that which confronts Haiti. As the campaign in the Philippines proved a success, there is every reason to believe that within a similar period equal progress could be made in the Haitian Republic, and within twenty years we should have a people speaking English almost as universally as Haitian.

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A SIBERIAN PEASANT ENGAGED IN GATHERING FUEL

Siberia is a country of incalculable wealth in natural resources, especially in its forests, its mines, and its agricultural lands, as yet largely undeveloped.

GLIMPSES OF SIBERIA, THE RUSSIAN "WILD EAST"

BY CODY MARSH

Ex-Captain A. R. C. with the A. E. F. in Siberia

THE spotlight of public interest is undoubtedly on Russia. The war is over and the world is in the throes of reconstruction. The greatest problem of reconstruction is Russia, because Bolshevism has its home in Russia. Probably Bolshevism is the most sinister and far-reaching menace of all history. Strange to say, the world knows very little about the country that has given birth to such a weird philosophy of government. Less is known about Siberia than about European Russia, in spite of the fact that an American expedition was in Siberia.

Siberia may be called the "Wild East" of Russia. The history of the American "Wild West" would do very well for Siberia, and the only changes required would be mere details of language, costume, and the names of places.

Any one in European Russia who, before the World War, wanted to get away from the respectability of the West, any one who had a penchant for pioneering, any one who wanted room to breathe and a chance to do something and be somebody—all these went to Siberia. Then, too, the Tsars had a way of sending their criminals and political prisoners out there, the latter often including men of exceptional intelligence imbued with the courage to think along lines different from those prescribed by law.

Russian wits used to say that all the interesting people were in Siberia because there were to be found not only the criminals, who at least were daring enough to break the law, but all who thought for themselves and who had been brave enough to think aloud.

OLD GEOGRAPHY IDEAS OF SIBERIA SHATTERED

Siberia in the American's imagination has not only meant exile, but every cruelty of exile. I know my own idea was a land full of prisons. A woodcut in my school geography pictured a poor fur-wrapped creature riding in a Russian "troika," or three-horse sleigh, through snow at least ten feet deep. Out of a black pine forest lean, hungry wolves were running in hot pursuit.

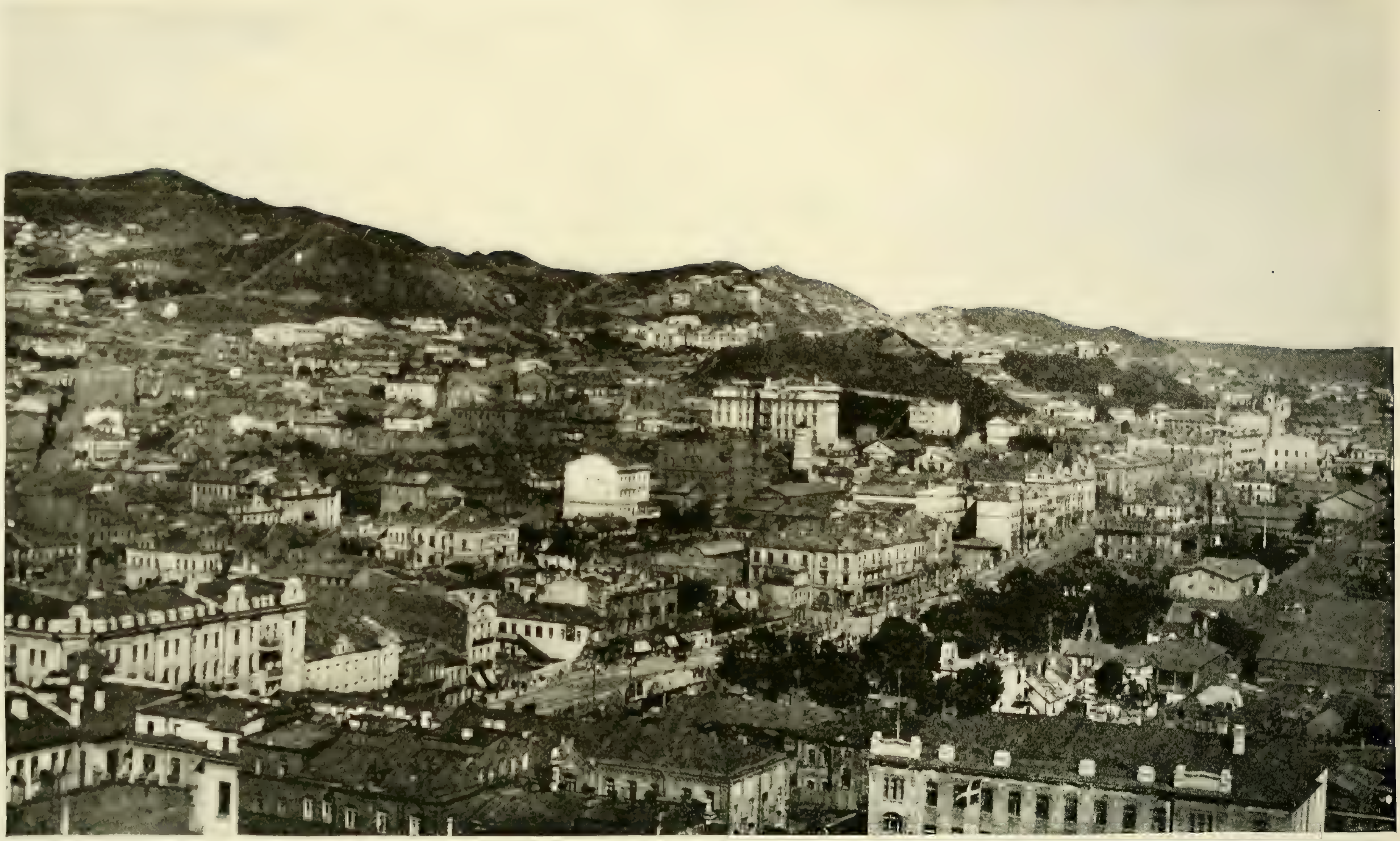
An American woman who had laughed at an Englishman when he complained that during his ten days in New York City he had not seen a single Indian, asked upon her arrival in Vladivostok if there was any danger from wolves in the city. In all my experiences in Siberia I did not see a wolf, nor a pine tree, and what little snow I saw was never more than a few inches deep, though there were sections where it was quite deep. And I saw neither the exile nor the criminal I thought I might see.

I had heard that furs were very cheap in Siberia and was asked to get enough sables for a coat. I matched five little pelts, enough to make one sleeve. The dealer said, "I will make these five a bargain. You may have all five for $1,200." His price was $200 less than he could get in New York, so it was a bargain.

I was not disillusioned about the climate. The American soldier says, "Siberia has two seasons—July and winter." This is nearly true, for there is practically no spring; the foliage does not appear until June. July is as warm as the winter is cold. The brief fall is beautiful indeed, and there is something very thrilling about the intense cold of the winter, when the temperature goes to sixty and seventy degrees below zero in some sections.

Everybody dresses and prepares for the cold, and on the whole I was more comfortable in the steady winter of Siberia than I have been in the changeable American winter.

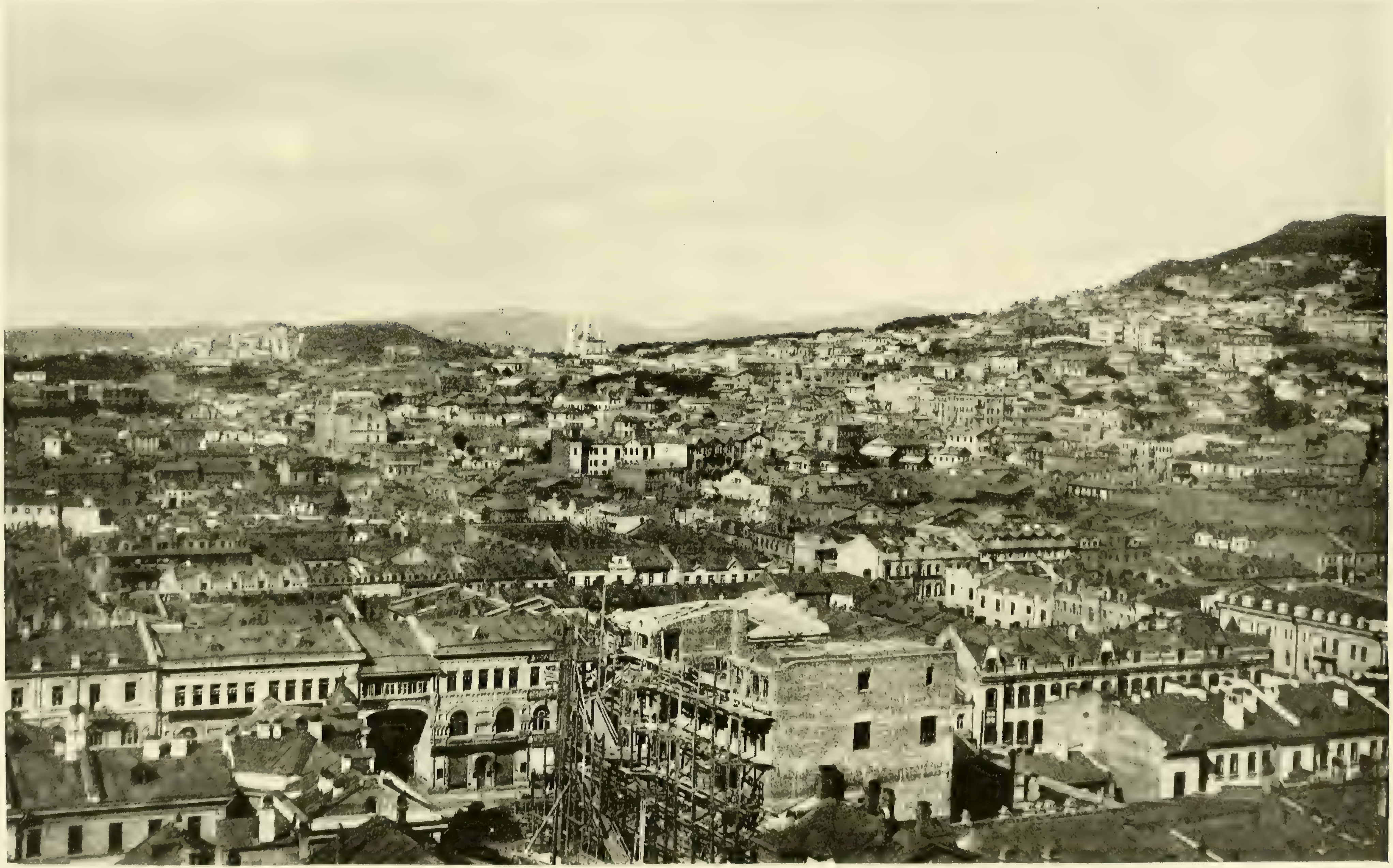
Were I a poet I should write a book of verses about the wild flowers of Siberia. There is a wild rose that blooms hugely on big, sturdy bushes. Then there is the mauve and gold of the "Mary and John," that is loved most by the Siberians. This



Photograph by Garner Curran

A VIEW OF VLADIVOSTOK LOOKING TOWARD THE NORTHEAST

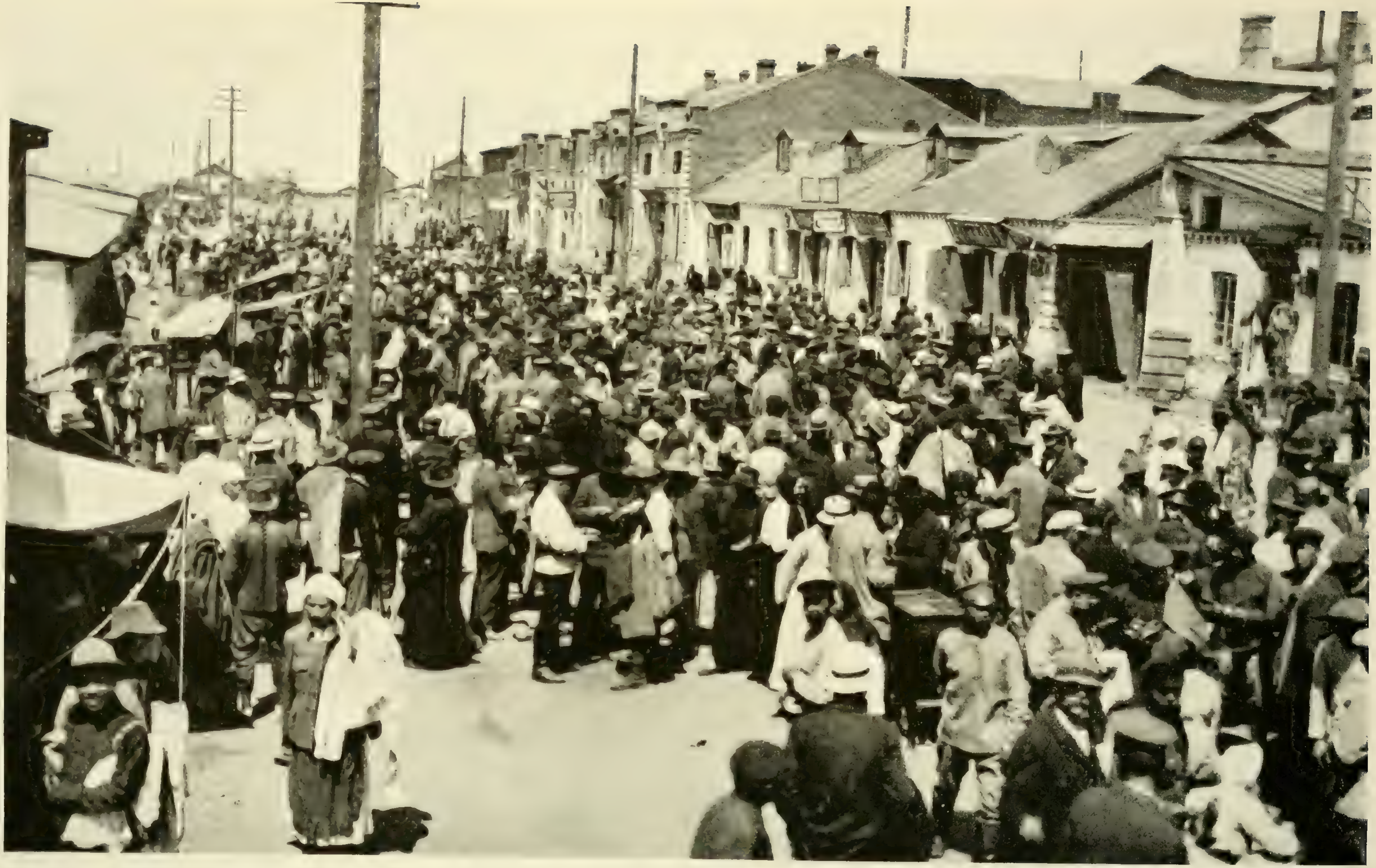
The city spreads out at the foot of many hills. In the vicinity are barracks sufficient to house an army of half a million men.



Photograph by Garner Curran

A PANORAMIC VIEW OF VLADIVOSTOK LOOKING NORTH

Before the war, Vladivostok had a population of 60,000, but since the troubled days of the Russian Revolution the number of its inhabitants has fluctuated in an amazing manner, owing to the influx of tens of thousands of refugees. At one time more than half a million persons were congregated here.



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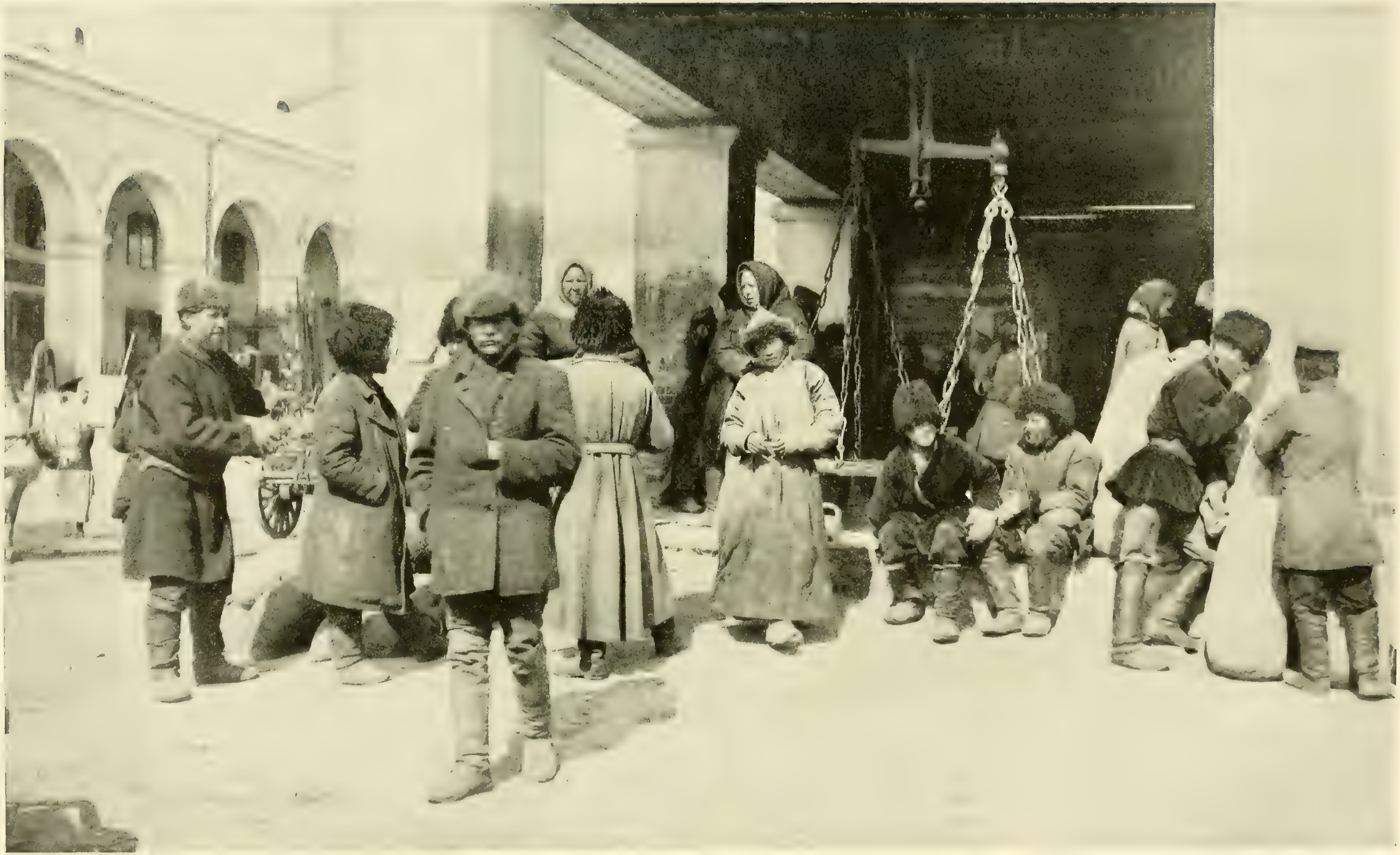
THE THIEVES' MARKET IN VLADIVOSTOK—ONE OF THE MOST INTERESTING QUARTERS OF SIBERIA'S GREAT SEAPORT

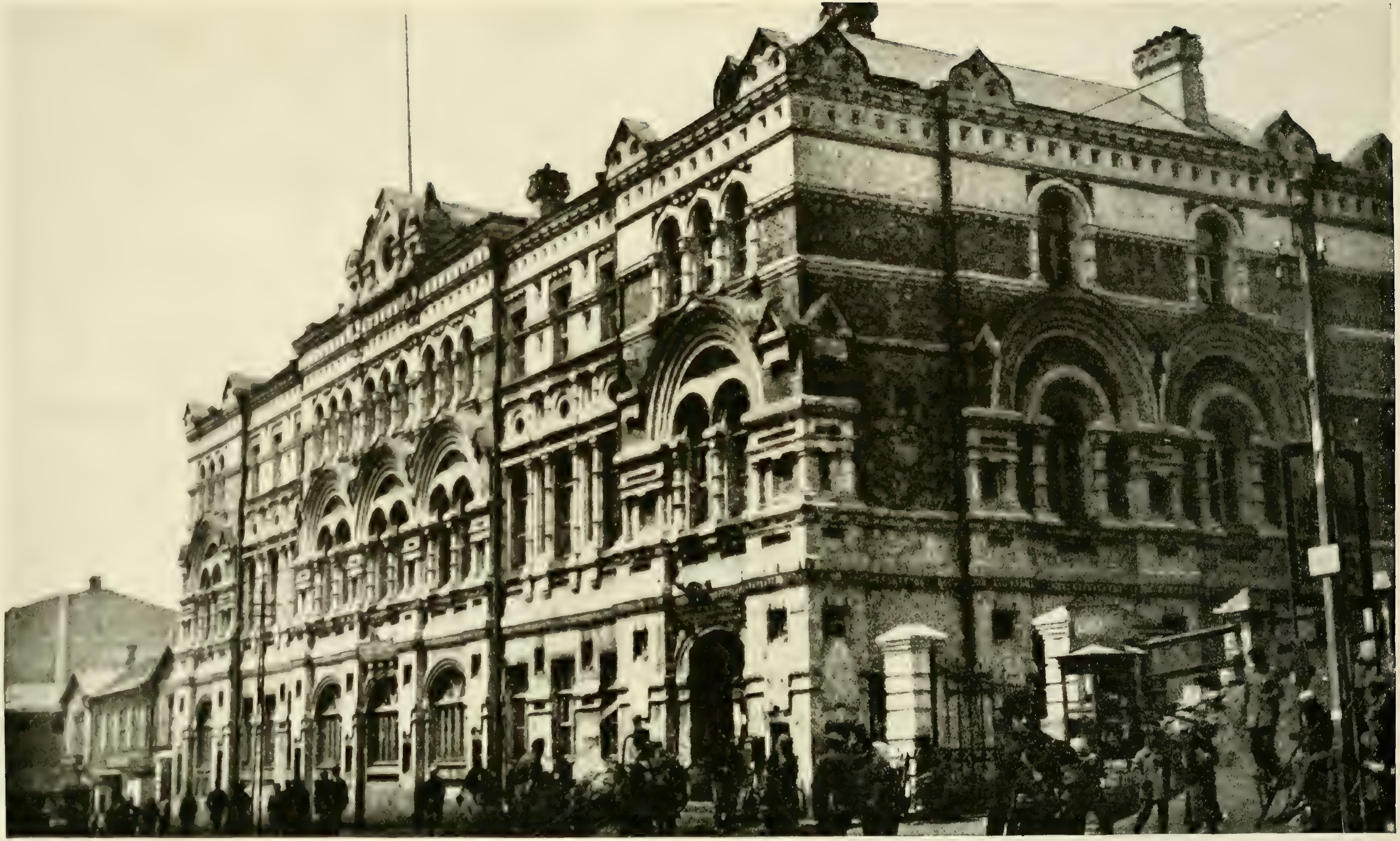
This section of the city is all that the name implies.



Photograph from Horace Brodzky

THE CORN BAZAAR AT KIAKHTA, SIBERIA

Here many races meet. The man in the foreground is a Tatar. The two sitting in the right background and wearing caps are Russians. The man in a skirt is a Buriat. The unshaven one at the left is a Jew.



Photograph by Garner Curran

THE POST-OFFICE, ONE OF THE MANY SUBSTANTIAL PUBLIC BUILDINGS IN VLADIVOSTOK

The exterior of such structures is deceptive. Many of the public buildings in Vladivostok are a sore disappointment from the inside, for they lack modern conveniences and are poorly finished.

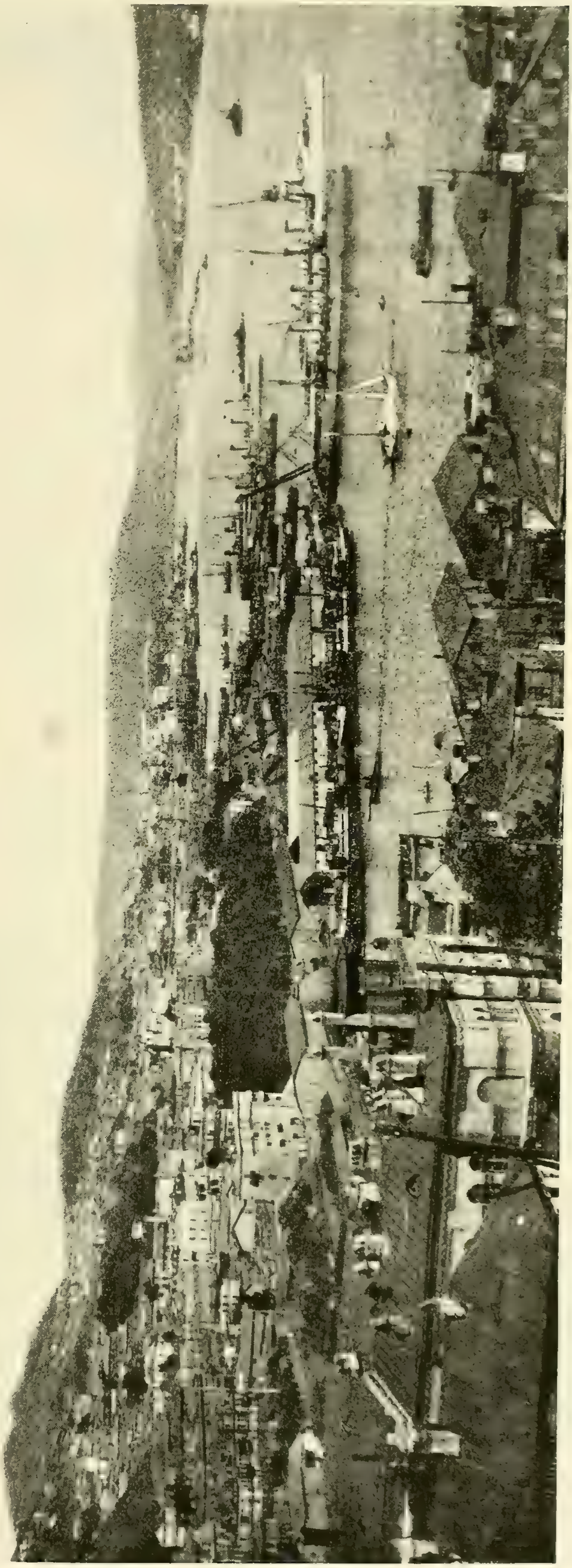
lovely flower is named after the Virgin Mary and the Loved Disciple.

Nature seems to have planned a passing panorama of blossoms to delight the outcasts and pioneers living in the thinly populated wastes of Siberia. Every week, it seemed to me, there was another program of wild flowers for the view from my window; all summer and fall they suggested ever-changing tapestry wrought on a background of verdure, hills, and water.

SIBERIA IS STEEPED IN THE COLOR OF THE EAST

Siberia is, above all, an oriental country. Out there the traveler sees every phantasmagoria associated with the East. Oriental sunsets, equal to any and inferior to none, thrill the senses with splendors of color ranging from volcanoes of rubies down to the myriad mysteries of the kaleidoscope. Then one sees all the peoples of the Orient — Chinese, Japanese, Tatars, Manchus, Koreans—men and women of every color and condition.

For the most part, the Russians have Russianized the country. Even so, one could easily believe the Tower of Babel incident to have occurred in Siberia, for one hears so many languages and sees so many different national customs. Chinese "sampans" and Japanese "dambes" ride the roadstead of Vladivostok along with Russian craft and American motor-



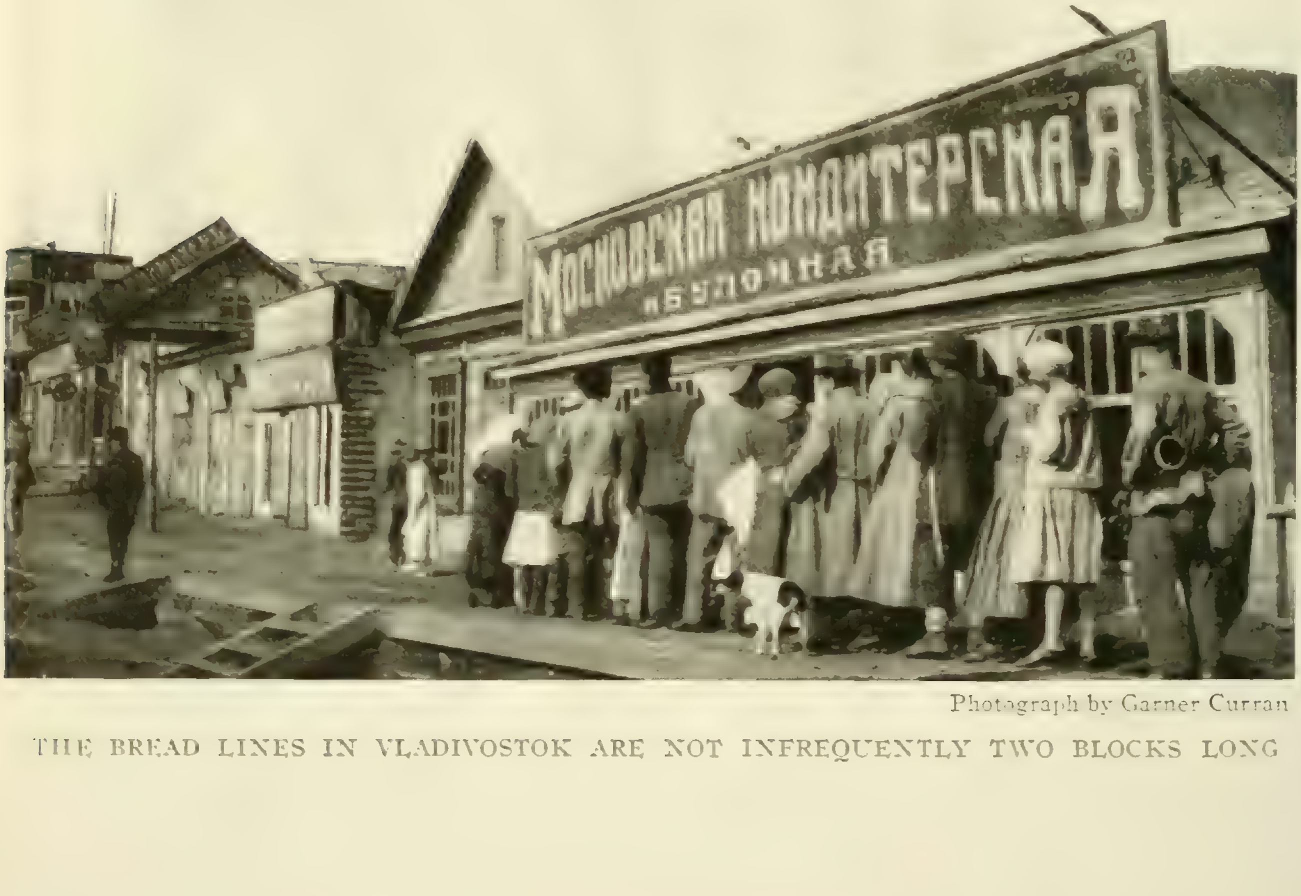
Photograph by Garner Curran

A VIEW OF VLADIVOSTOK HARBOR LOOKING EAST

The city skirts the harbor in shoestring fashion, with one main avenue running the entire length. The best engineers planned it and the cheap coolie labor of the Orient did the work.

Photograph from Major General A. W. Greely

WHEN FOOD WAS PLENTIFUL IN SIBERIA, BEFORE THE BOLSHEVIST DEBACLE



Photograph by Garner Curran

THE BREAD LINES IN VLADIVOSTOK ARE NOT INFREQUENTLY TWO BLOCKS LONG boats, and on the highways and caravan routes camels and oxen are passed by modern automobiles, mostly of American make.

One gets wonderfully attached to Siberian life. There is something charming and fascinating about it. I was evacuated to Manila with more than a thousand American troops, and during my three months' stay in the Philippines I repeatedly heard the men express a longing to be back in "dear old 'Vladi'." The natives, in spite of the scourges of typhus and cholera, in spite of the hunger and cold which they have experienced so frequently during the last six years, are devoted to their home land; yet apparently they are indifferent to the rich opportunities of their country.

Siberia is a land of rich agricultural potentialities, in spite of the shortness of the summer season, and even American tables have been served with Siberian cheese and butter. But the most alluring opportunities of the country are presented in its mineral wealth—gold and silver and precious stones.

A REMINDER OF OUR WEST OF EARLIER DAYS

There is so much in Siberia that reminds an American of our "Wild West" of earlier days, whether it be lawlessness, freedom, opportunity, a place to live life over again, great distances, vastness and gloriousness of scenery, or barrenness such as is seen on the Gobi Desert, where the camels graze.

And there are many features that may be described in typical American superlatives! Vladivostok has the finest harbor in the world; the railroad connecting Vladivostok with Petrograd is the longest in the world—thus the Siberians rave, and not altogether madly. But they cannot rave about their roads. The Russian word, "doroga," meaning "road," literally means, "bad road," and it would be redundancy to speak of a bad "doroga." It merely means a place where you *may* get through. But what an amazingly wealthy people they will be when they get roads suitable for automobile trucks and some lines connecting with their already wonderful transcontinental railway!

The cities of the Russian "Wild East" are not particularly populous, but each one boasts of sufficient beautiful churches, government and private edifices to give it a noble aspect. First comes Vladivostok, a combination of Gotham and Chicago. At the other end of the country is Omsk, the capital. In between and top and bottom are Tomsk, Ekaterinburg, Cheliabinsk, Chita, Xabarosk, Irkutsk, Harbin, and Nikolsk. One of the most objectionable features about these beautiful cities is their filth and the attendant odors. I once mentioned this deprecatingly to a Russian woman who had traveled much. She sharply reminded me that the variegated stenches of the Chicago stock yards, the smoke of Pittsburgh, and the pungent gasoline stench of New York's Fifth Avenue still held first places in her superlatives of city smells.

VLADIVOSTOK, THE LARGEST AND MOST INTERESTING CITY IN EASTERN SIBERIA

Tomsk has an unusually beautiful cathedral and a great university, that has produced more than one famous name, Metchnikoff, the great bacteriologist, being one of them.

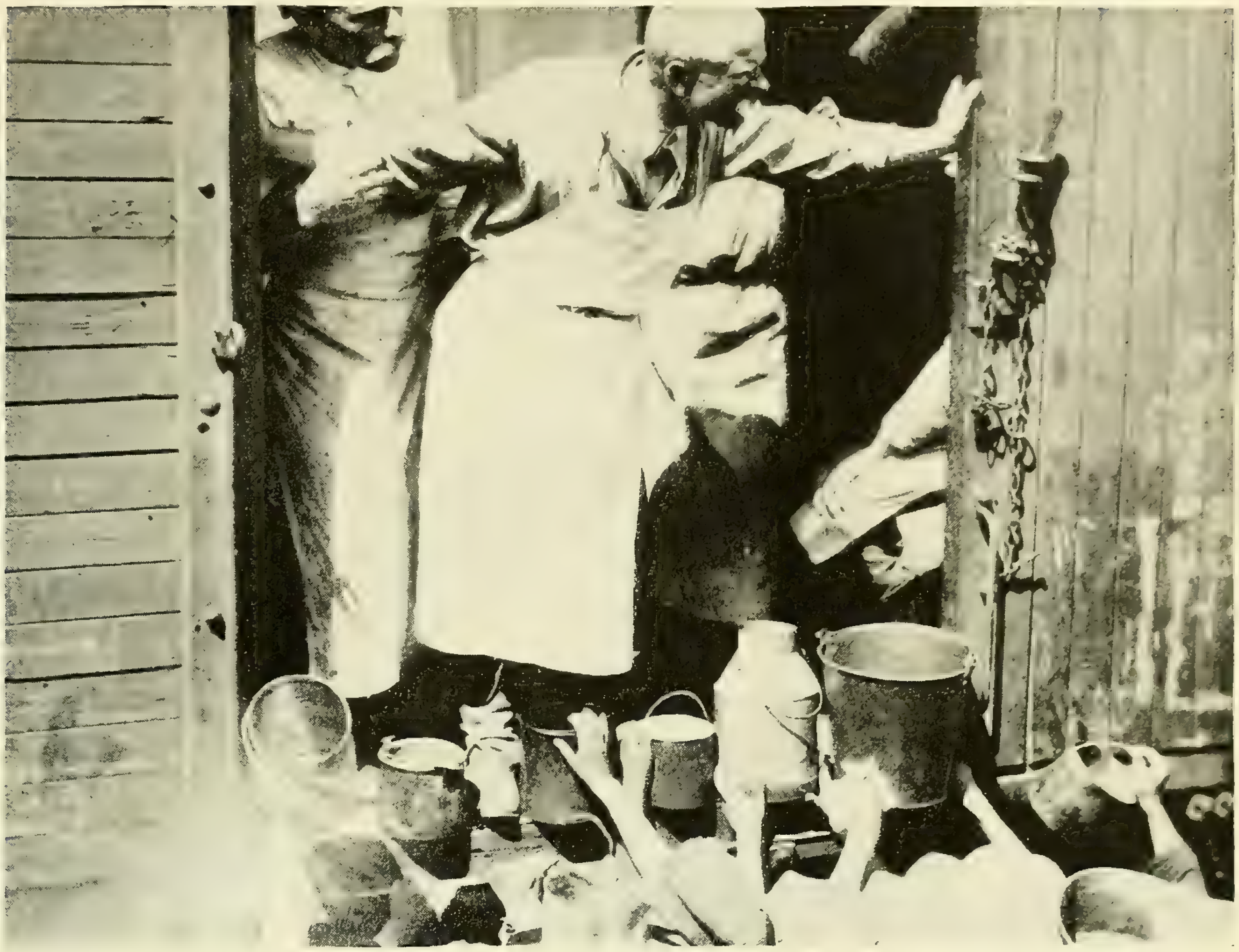
Vladivostok, the largest and most interesting city of eastern Siberia, owes much to Russia's loss of Port Arthur, for that misfortune increased the Tsar's interest in the more northerly seaport until he had made it worthy of its name, "Ruler of the East." The one disadvantage of Vladivostok is that its harbor is frozen during several months of the year. In spite of this drawback, I believe it is conceded that Vladivostok possesses the second finest harbor in the world, and it is claimed that from a military standpoint the city was second only to the Dardanelles.

Whatever lessons the Tsar learned from the Russo-Japanese War, Vladivostok proves that he had determined not to be caught napping again. Batteries of large defense guns and concrete emplacements for many more guard the mouth of the harbor. From the water front to a point many miles inland are numerous lines of defense. Many of the hills are full of ammunition, and aërial railways were constructed to carry it to the guns. The harbor is equipped with machine-shops, floating dry-docks, stationary dry-docks, a naval base, hoist-

A MACHINE-GUN IN THE HANDS OF STALWART SIBERIANS

Photographs by Cody Marsh

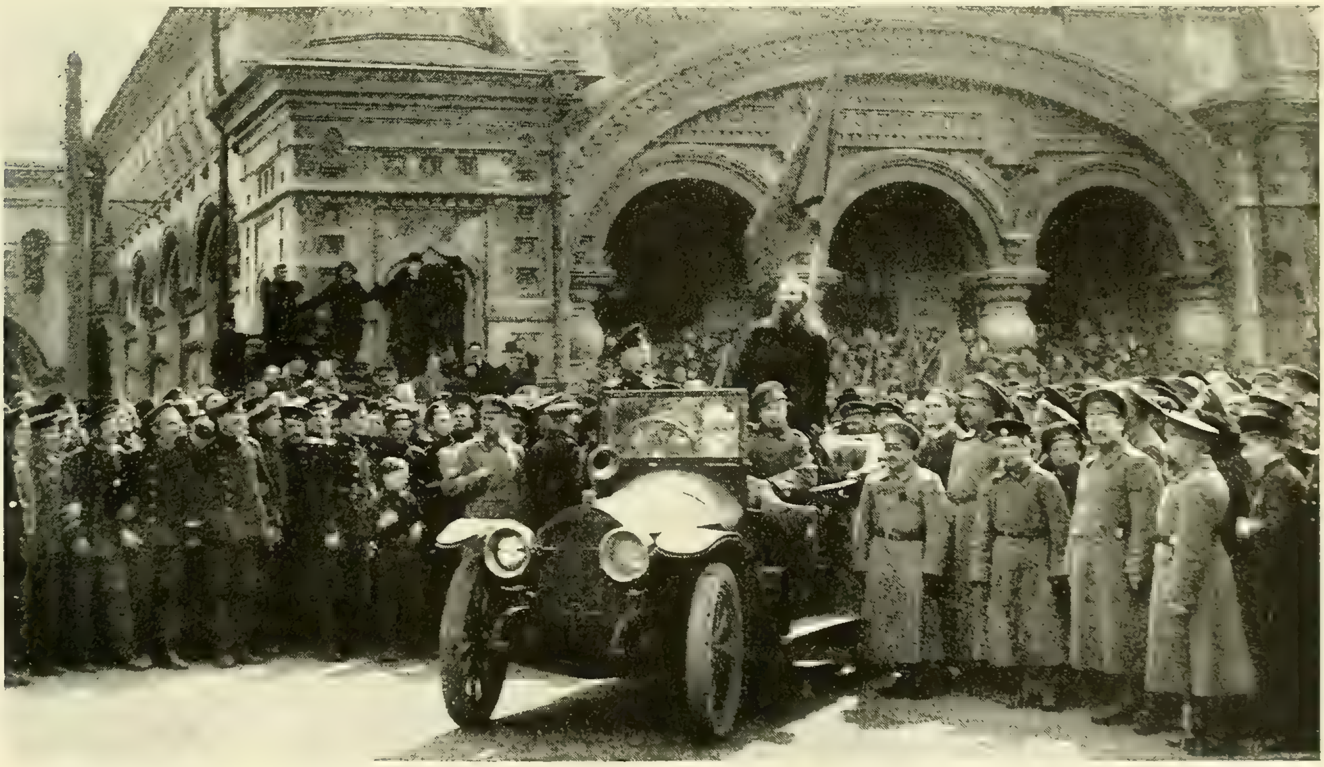
THIS IS THE TYPE OF MOTOR TRUCK USED BY THE BOLSHEVIKS IN THEIR RECRUITING CAMPAIGNS IN VLADIVOSTOK



Photograph by Cody Marsh

THE TRAVELING SOUP KITCHEN AT ONE OF THE SIBERIAN WAY STATIONS

During their famous trip across Siberia the Czech soldiers succored the starving natives. The man in the doorway is the chef on one of the Czech cook cars.



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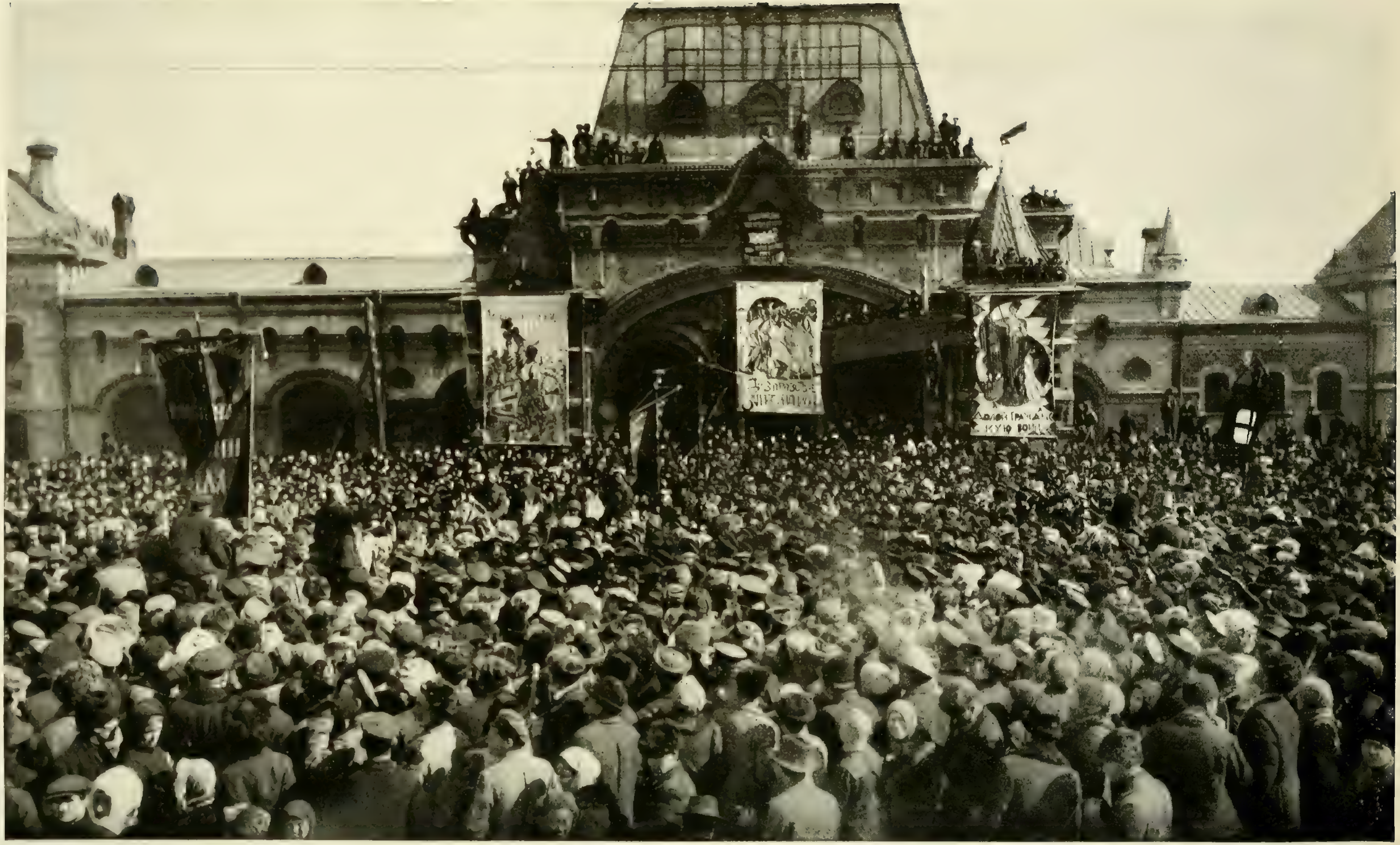
THE SOAP-BOX ORATOR USES AN AUTOMOBILE IN VLADIVOSTOK

The building in the background is the railroad station.



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THRONGS BEING HARANGUED BY BOLSHEVIK ORATORS DURING THE MIDSUMMER RIOTS AT VLADIVOSTOK

Note the gallery of onlookers perched on the cornices of the railroad station.

ing-cranes, and shed after shed of supplies.

The shores are lined with rotting hulks of submarines, torpedo-boats and destroyers, tugs, and many other kinds of naval gear and equipment. On the floor of the harbor rest expensive automobiles and other material which had been unloaded on the ice during the last year of the war and allowed to sink with the spring thaw, during Siberia's period of chaos.

The city spreads out at the foot of many hills and rises into a beautiful and sudden spectacle, as one's steamer makes a turn in the approach from the sea. A cathedral with many golden domes occupies a place of vantage, and everywhere rise huge stone and brick barracks, mostly white, with an occasional pile in red brick for contrast.

BARRACKS, BARRACKS EVERYWHERE

All around the city are barracks, barracks everywhere. It is said that there are sufficient barracks in and around Vladivostok to house an army of half a million men. These barracks are substantially built and provide protection against the heat of July as well as the cold of winter. Even out in the country, beyond the suburbs, where one begins to feel he is away from these structures, a sudden turn around a hill reveals another string of two-story brick barracks, including chapel, officers' quarters, and stables. When the Allied expeditions arrived in Siberia these buildings were not only found in numbers at Vladivostok, but in all other Siberian cities of importance.

There are numbers of institutions of learning in Vladivostok, notably the Oriental Institute and the Commercial School, while the noble Zemstvo building, apartment houses built for officers and their families, and many fine private residences lend architectural distinction to the city. The fine pile occupied by the American Army Headquarters was built for a German department store.

The city skirts the harbor in shoestring fashion, with one main avenue, the beautiful Svetlanskaya, running the entire length, ending in a popular bathing establishment, where the Siberians gather in great numbers.

The Tsar's advisers had thought of everything in building this city—religion, education, amusements, hotels, homes, and everything needed by the military. The best engineers planned it and the cheap coolie labor of the Orient did the work. Two large department stores would do credit to an American city of the first rank, and I was pleasantly surprised in the variety of articles that could be purchased.

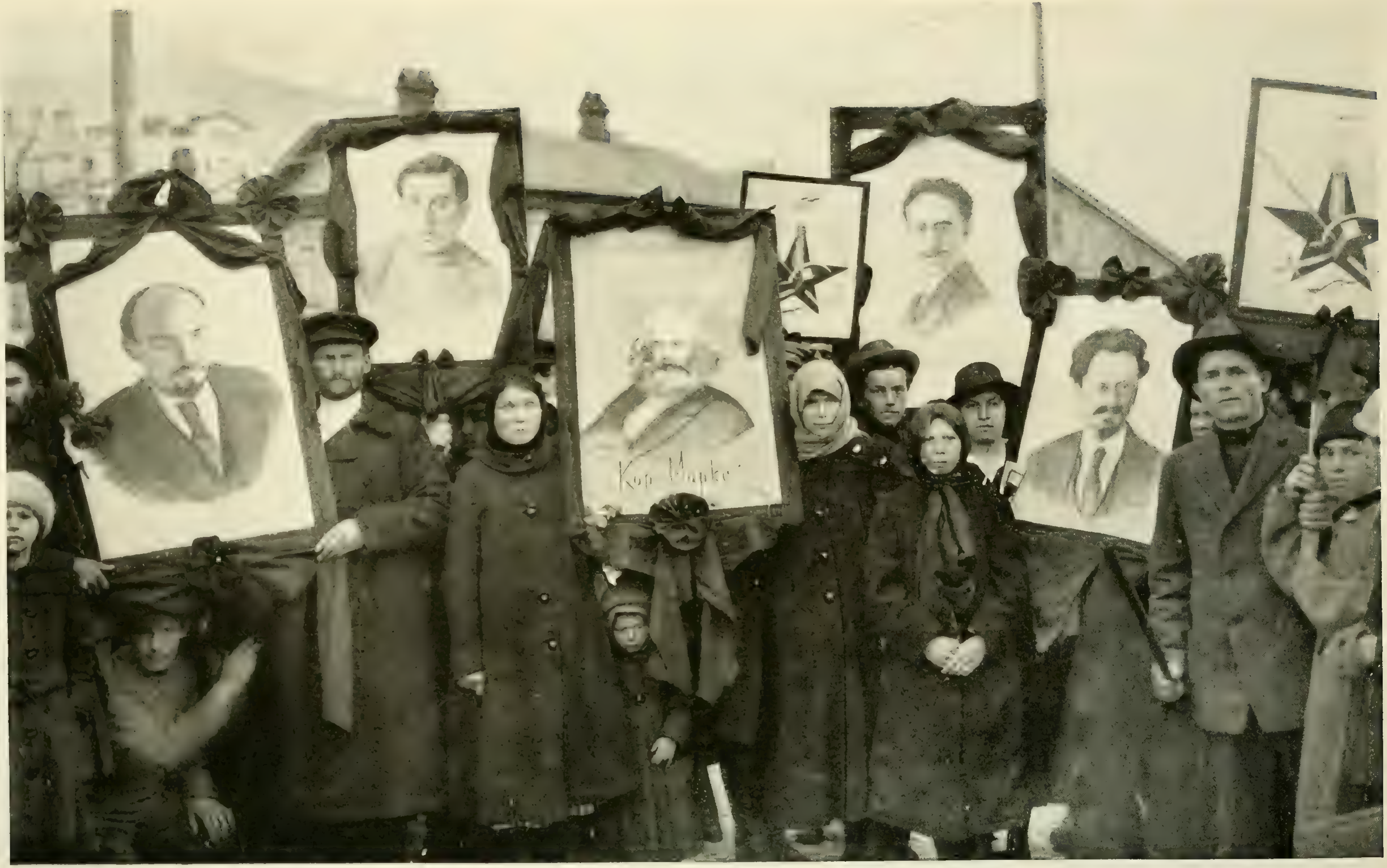
A CITY OF SENSATIONAL HEADLINES

An American sensational newspaper could get plenty of headliners in Vladivostok. The city is "tougher" in fact than any of our cities has ever been in reputation. Let me give an extract from my diary for one day: "July — saw an American doughboy in an ambulance. He had been wounded in a brothel brawl on 'Kopek Hill.' Rode out to Second River to see Lt. ——. At the little bridge where the road turns to go through the railroad yards I saw the body of a nude woman lying in the mud below. There was a nasty hole in her head. Nobody seemed to pay any attention to her.

"On the way back through the city my car was stopped by a huge crowd in front of Czech headquarters on Svetlanskaya. Standing up on the hood I saw a policeman searching the clothes of a nude Korean. Nobody, not even the woman standing close at hand, seemed to be aware that the poor devil was naked. I asked Pietro, my Russian driver, to get the facts. He came back grinning and said the woman had been robbed of her purse and had chased this Korean, who was finally caught by the policeman. The usual method of search failing, the Korean was ordered to strip and the purse was found. Shortly the crowd broke up and the Korean nonchalantly dressed himself.

"Just as I was turning into the drive leading to Barracks No. 7 I noticed that the stone wall holding the embankment on the other side of Svetlanskaya had caved in, and as I looked I saw the body of a baby, which some poor mother had put there for want of a better form of burial.

"After supper I heard that General K—— of the Ussuri Cossacks, had captured, or rather kidnapped, Colonel ——



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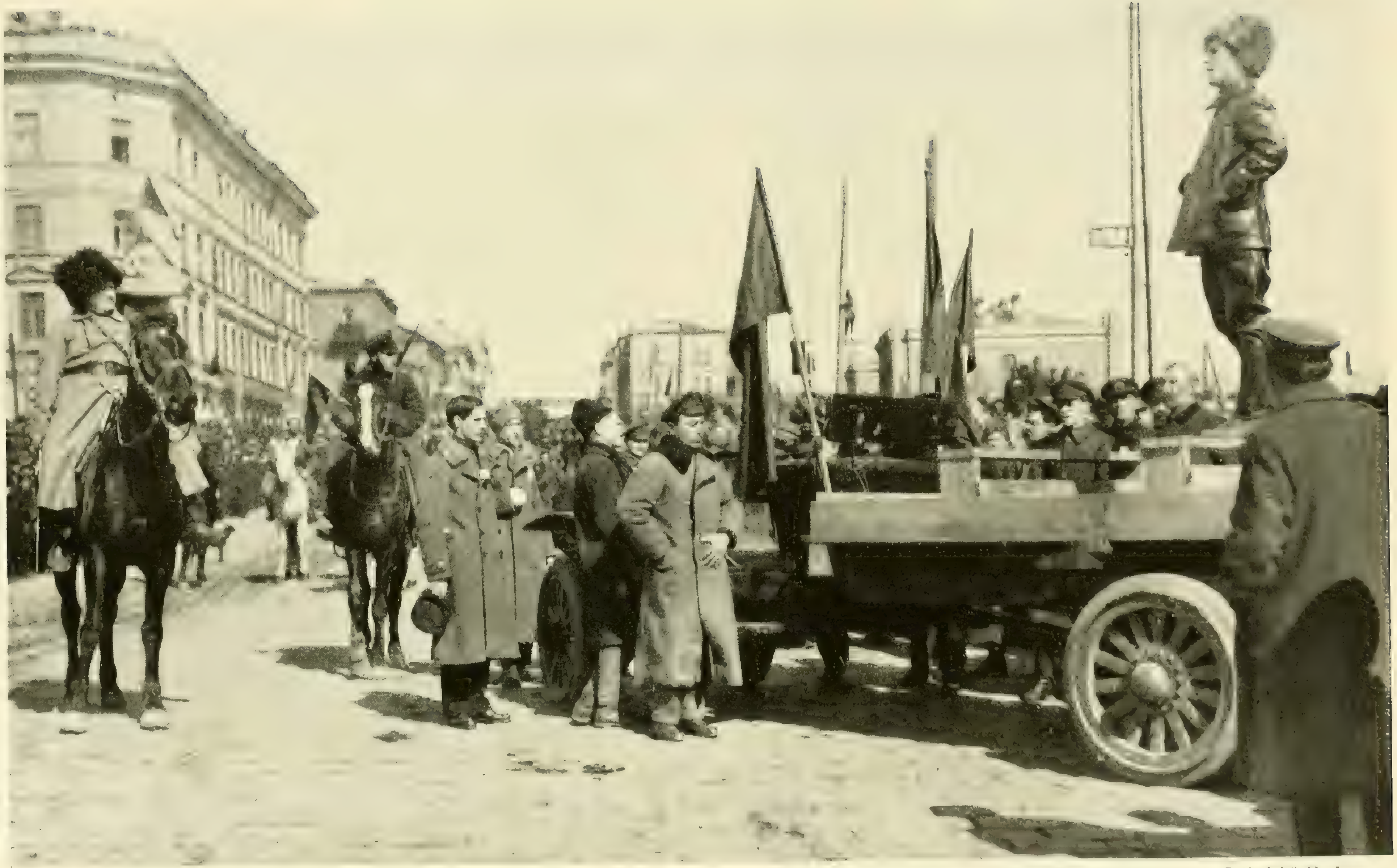
RUSSIAN PEASANTS CARRYING PLACARDS DURING A BOLSHEVIST CELEBRATION

The five thus paraded from left to right are: Lenine, Sukhanoff, Karl Marx, Lumacarsky, and Trotsky.



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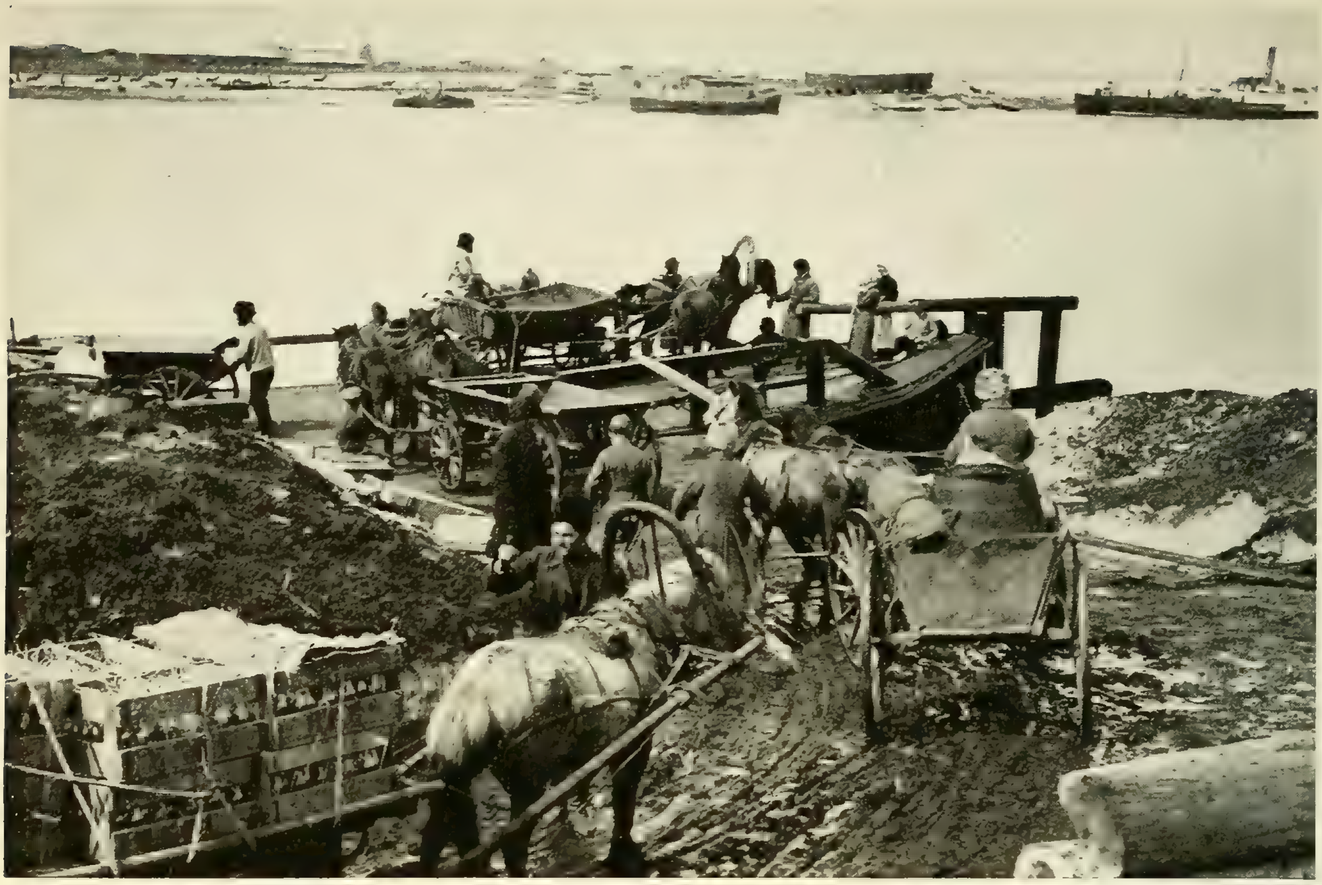
A RED ORATOR ADDRESSING AN INDIFFERENT AUDIENCE ON THE OCCASION OF THE THIRD ANNIVERSARY OF THE RED REVOLUTION

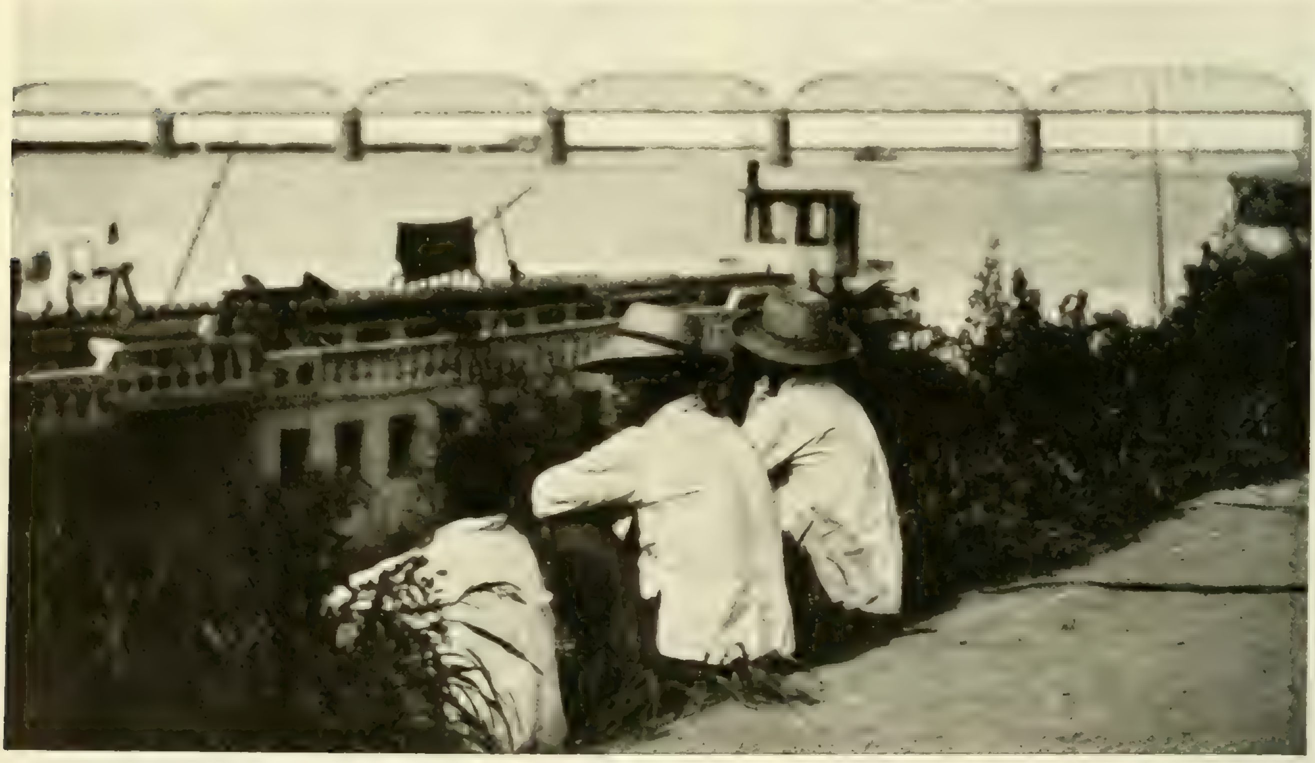
Note especially the unmilitary bearing of the trooper at the extreme left. With his shako crushed down over his head, he seems to suggest that the Tsar's prohibition regulations have not been the law of the land during the Bolshevist régime.



Photograph from Horace Brodzky

WAITING FOR THE FERRY AT IRKUTSK

Irkutsk is situated on the Angara River, 2,000 miles west of Vladivostok and 44 miles from Lake Baikal. It is one of the important cities on the Transsiberian Railway and was founded in 1652.



Photograph by Maynard Owen Williams

THE BRIDGE OVER THE SUNGARI AT HARBIN

In the days of the old régime, armed guards were stationed at each end of this bridge and small boats lay in the stream above and below it with orders to shoot on sight or sound, after sunset, as the breaking of this bridge would have separated Vladivostok from Petrograd. Many ignorant Chinese boatmen were shot by the guards when they unwittingly floated down with the current and came too near the structure.

THE SIBERIAN PROTOTYPES OF MARY'S LITTLE LAMB

Photographs by Cody Marsh

RUSSIAN CHILDREN BATHING NEAR VLADIVOSTOK

One of the popular bathing establishments of the great seaport is at the end of a beautiful avenue known as Svetlanskaya, where the Russians enjoy the surf in the Siberian fashion.

Photograph by Cody Marsh

THE BRICK STOVE IS ONE OF THE MOST STRIKING FEATURES OF THE SIBERIAN HOME

in front of our gate, after which he took him to his private armored train, shot him, and threw his body from the train."

SHOPPING FOR A SAMOVAR IN THE THIEVES' MARKET

The city market-place is a most interesting spot. There is a Russian section, a Japanese section, and one occupied by Chinese. Then there is a section known as "The Thieves' Market." It is all that its name implies but I did not know this when I first stopped there. I went in search of a samovar. The Russian says, "What is home without a samovar" just as I used to say, when a small boy, "What is home without a rubber plant?" or as the modern American boy might say, "What is home without a phonograph?"

A charcoal fire is built in the samovar and water is kept hot for the tea that is drunk every few minutes, it seemed to me, during the day. A small teakettle of strong tea is kept hot on the top of the samovar. Some of this is poured into a glass and then thinned down with hot water from the samovar. Because the samovar was to me the one distinctive accessory of Russian life, I selected it as the one memento of Siberia I wanted to take home. So I went to "The Thieves' Market" in search of one.

None of the booths had what I wanted. My requirements specified a very large one, with a Russian crest on it and some Russian motto engraved on it. Finally one man said that by Saturday he could have what I sought. This meant, as I found out later, that he would have one stolen to suit me.

I returned Saturday with a Russian friend who had lived in America. Soon my eyes feasted on a huge samovar, large enough to provide tea for a brigade. The thing was literally covered with shields and crests and Russian mottoes. I was convinced that this samovar had been in the Tsar's Winter Palace at the very least. My Russian friend looked on quite scornfully and finally blurted out, "Certainly you are not going to buy that piece of junk!" I replied quite haughtily that I certainly did intend to buy it if I had to mortgage the farm.

With that he yanked the samover from the merchant, turned it upside down and showed me, carved in plain English, "Made in Waterbury, Conn." That was Exhibit A. Then for Exhibit B he explained that these many crests and shields were medals that this particular brand of samovar had taken at various fairs, and the Russian texts were merely legends explaining what the medals were. I was really sorry I had him along, for I would rather have kept my illusion and bought the samovar.

THE NIGHT LIFE OF A RUSSIAN CITY IS NEVER DULL

However dull a Russian city may be by day, it is never dull at night, for the Russian blossoms out at his best after dark. There was one cabaret in Vladivostok that did not open until one in the morning. And yet, strange to say, no matter how tough the cabaret, no one ever sees anything lewd on the stage or hears trashy music, unless it is American "jazz," played as the tribute of hospitality to American patrons. Russians have too keen an appreciation for beautiful dancing and real music to tolerate anything unchaste in their enjoyment of these arts.

During the last two years Vladivostok seemed to be the Mecca of the thousands of refugees who came in a never-ending stream from every part of Russia and Siberia. This was due to the ever-recurring political upheavals. Every city along the Transsiberian Railroad had its thousands of refugees, but they were always en route to Vladivostok. In Omsk there were some hundred and fifty thousand refugees living in ten thousand freight cars. I have had to climb over hundreds of them sleeping in railroad stations to get to the station-master's office.

A CITY OF REFUGEES

Vladivostok normally had a population of sixty thousand, but at one time it is said there were more than a half million persons in the city. They lived in every conceivable abode.

All around the seaport villages sprang up as if by magic. But the houses were poor, contemptible things, made out of tin cans, the wood of packing cases, mud—in fact, anything that could be held together by any means and that would keep out the cold. These poor folks seemed to feel fairly secure in Vladivostok, where the forces of the Allied expeditions kept things going after a fashion. Many of them hoped to reach Japan or America eventually. Their only nourishment, as far as I saw, was black bread and tea; and what an emaciated and sickly lot they were! They never had sufficient clothing, even in mild weather, and the fact that so many survived is attributable solely to the remarkable ruggedness of the Russian physique.

Photograph by Cody Marsh

A CITIZEN OF RUSSIA'S WILD EAST

Even the poorest peasants in Siberia seem to have the instincts of courtesy, and their hospitality knows no bounds if they like you.

In addition to the refugees who lived in freight cars and huts, there were those who had no homes. I often saw families curled up on door-steps, away from the zero wind, the little bare legs of children sticking out like the tails of snakes, coiled together to keep warm. But how patient these poor things were in all their sufferings!

I have told much of Vladivostok because it is the key to Siberia. It is the beginning of the Transsiberian Railroad, and everything intended for Siberia enters there. The only other gateway is through Manchuria to Harbin.

THE RUSSIAN IS A GOOD LINGUIST

While there are several phases of life at Vladivostok that are cosmopolitan, one finds in this city the Siberian atmosphere at its worst and at its best: other com-

Photograph by Cody Marsh

THE TEA-KETTLE IS THIS YOUNG SIBERIAN'S MOST VALUED POSSESSION

The tea habit is as firmly intrenched in Siberia as in European Russia.

munities reveal more of what is best in Siberia and not so much of what is worst.

A large percentage of Russians have some knowledge of the German language and most educated Russians know French. It is said that many wealthy and well-educated Russian families habitually use French for mutual intercourse in the home and leave Russian for their dealings with the servants. The Russian is a good linguist. I believe he learned English faster than we learned Russian during the stay of the A. E. F. in Siberia; but, in my opinion, the Russian has to be a good linguist to speak his own language. This is not an aspersion on the language; on the contrary, it is a beautiful and very expressive one.

It is possible to pick up in a short time enough Russian for the ordinary transactions of a day; but this will mean a child's vocabulary and no grammar. The language has no article like the French, but it has about thirty-five letters. The Bolsheviks are proposing to eliminate many of these letters.

RUSSIAN HOMELIFE AND COOKERY

Instead of many tenses, there are "aspects," many declensions, and intricate prepositions. The most attractive feature about the language is its wealth of polite and gentle words and its interesting form of address. I love to have a Russian address me as "Cody Andreivitch" (Cody, the son of Andrew).

It is trite to say that the Russian home life is beautiful. But nowadays we read so many blood-curdling stories about the Russians and their Bolshevist excesses that I want to say that I have lived with Bolshevik Russians of the reddest dye and have found them among the gentlest and most lovable people I have known. Even the poorest peasants seem to have the instincts of courtesy, and their hospitality knows no bounds, if they like you.

If a family can afford something beside the diet of black bread and tea, the guest in a Russian home has a treat in store, for the Russian housewife is a wonderful cook.

The Siberians make much of their "cold table"—raw fish, caviar, salads, and that delicious crab whose meat gives no nightmare, indigestion, or headache.

Their best dish is chicken, prepared in a most unusual way. Butter is laid thickly on a bone; layers of light and dark meat are wrapped around it; then the whole is rolled in egg and crumbs and baked. It makes a small "ham" of chicken and is very tender. One must be careful in cutting into it lest the hot butter spurt out beyond the plate.

The Russian is a heavy meat eater, due largely to the fact that there is an abundance of game, pheasants being cheaper than chickens, and in some places venison is cheaper than steak. In the palmy days the Siberian table must have groaned.

Russian architecture is unmistakable. A house, a church, a factory, or just a plain shed will show the touch of the Slav. Russian elements are noticeable in the windows and doors, in little and big lines of decoration, as well as in the general plan and shape of a building. No matter how poor the cottage may be, there is something distinctive about it. Even those miserable little refugee shacks built of tin cans filled with mud "sported" a Russian cornice, or a Russian window frame, though these racial architectural touches meant much extra labor. The Russian architecture is unique, in that it can carry a lot of what we call "gingerbread" and not appear cheap, trashy, or bizarre.

I often wondered what people did for a living, what they did to earn even their black bread and tea. The government employed a few in the machine-shops and some worked on the railroad, and many more were soldiers; but this did not begin to account for all. In the days of the Tsar most of the men were farmers; but farming has become a thing of the past. Because of the ever-changing conditions and the perpetual civil war, farmers have been afraid to risk the expense and labor of putting in a crop. Cows disappeared to such an extent that almost everyone resorted to canned milk.

But the Siberians are informing themselves about tractors and other farming machinery, and when they can devote their energies to agriculture again they will produce much to satisfy the world's hunger.

Photograph from Cody Marsh

THE AUTHOR SURROUNDED BY A GROUP OF SIBERIAN FEMININE TYPES

THE COSTUME OF THE SIBERIAN

The dress of the Siberian Russian differs from ours in that the woman always has a platok, or colored handkerchief, of some sort on her head and white shoes and stockings on her feet. The distinctive article of the man's dress is the robashka, or shirt, which is worn outside the trousers. The neck and front of the garment are generally beautifully embroidered and a rope-like girdle confines it at the waist. These are not the native Russian costumes, but the costumes worn for the most part at the present time.

Photograph by Cody Marsh

IN A SIBERIAN SCHOOL ROOM

The average Russian is a good linguist. His own language has thirty-five letters, but the Bolshevist authorities have proposed eliminating some of these.

Russians in Siberia are enthusiastic about American clothes, particularly American shoes. They want American automobiles and American machinery of all kinds, and they delight in American "movies."

The Russian Church had a hard time during the revolution. Most of the priests had to go into hiding, though this was not so nearly universal in Siberia as in European Russia. Many of the people looked upon the established Church as the twin brother of the civil tyranny. They did not hate religion, but they hated the privilege and ease of the clergy, and the tribute of money and labor they had to pay to the Church.

When the revolution struck the Church, the real men among the priests passed through the fire. They gained some knowledge of the needs of the people and many of them are doing a noble work now. The Church had an astonishing calendar of holy days, "prazneeks." Even the godless still keep these. When a Russian celebrates a prazneek he celebrates! He would not dream of working, but gives himself up to a good time.

The religious prazneek is the only form of sport the Siberian knows. A few people play tennis and almost everybody swims and swims well, but otherwise they do not seem to have any interest in athletics or exercise. They are as naïve as children, but brave—the women as brave as the men and as strong.

GENTLENESS AND STRENGTH DISTINGUISH THE SIBERIAN

The outstanding characteristics of the Siberian Russian are his physical strength and stamina and his gentleness of nature. Most people will be surprised at the second part of that statement, on account of what has been published about the Bolshevist cruelties. It is true that the peasant went from the extreme of an absolute monarchy to the most fantastic socialism the world has known. Nevertheless he is gentle and forgiving by nature.

Of course, Siberia did not taste the full bitterness of red Bolshevism. The extreme elements were present, but they never had full swing. Red Bolshevism in Siberia never was more than "pink," and that pink is becoming paler every day. They call themselves "Social Democrats" in Siberia, and while they have a working understanding with Soviet Russia, their tendency is to work out their civil salvation on their own lines independent of Petrograd and Moscow. The Siberians wonder why the powers do not approach them with a trade agreement of some kind.

The allied armies failed because they hurt the Siberian's pride by their very presence.

THE SOUL OF SIBERIA

Because of faulty sanitation, Siberia is ravaged by typhus and cholera. I once visited a hospital in one small city where there were two thousand cases of typhus, while in the freight yards there were three thousand additional cases, and not a doctor or nurse. The hospital dispensary boasted of a few small bags of herbs and that was all. All the doctors except two and nearly all the nurses had been stricken with the plague.

One ward in which two hundred persons were ill had one nurse in attendance. When the commandant took me through we found this little nurse in a heap on the floor, crying. I asked her why she was crying, thinking she was stricken also. She replied that she was quite well, though very tired, but her heart was aching for those two hundred sick men because she could not get around to all of them to bring them their medicines or nourishment, and they were too sick to help themselves. Then, as she broke into an agonizing sob, she cried, "Oh, why didn't the good God give me twenty bodies for this heart that would do so much!"

Her name was Tania and she was only seventeen. All the members of her family had been destroyed, but hers was the soul of Siberia, for there are many like Tania in Russia's "Wild East."

So one is not surprised that some 500 men out of an expedition of only 7,500 Americans married Siberian women.

IN A SIBERIAN PRISON CAMP

While in this plague-stricken city I visited the prison camp of 6,000 German, Austrian, and Hungarian prisoners of war. It was my pleasant duty to bring them flour and medical supplies. For

Photograph from Cody Marsh

THE SIBERIAN CHILD'S ENTHUSIASM FOR SWEETMEATS AND KNICKKNACKS IS NO LESS MARKED THAN THAT OF YOUNG AMERICA

three days previous to my arrival they had had nothing to eat except some bowls of hot water, with a few cabbage leaves for flavor.

The sick were suffering greatly for want of medicines. The Russians could give them nothing because they had nothing to give; and I believe the officials were as grateful as were the war prisoners for the timely aid, for the venom of the World War was a thing of the past.

When the "pink" Bolsheviks, or Social Democrats, got control of Siberia last January one of their first official acts was to free all of these prisoners and give them at least a chance to shift for themselves.

A BASIS FOR FRIENDSHIP BETWEEN AMERICA AND SIBERIA

Every one remembers how the Czechoslovak prisoners of war, when released by the Russians, organized an army and fought for their erstwhile captors. When the Bolshevik specter came, this little army went from Samara to Vladivostok under the "Boy General" Gaida and swept Siberia clean of the Bolshevist menace for the time being. Siberia owes it to this little army that she has not known the cruelties and exaggerations of red Bolshevism; and the Czechoslovak Republic likewise owes much to this little army. The bravery and accomplishments of these lithe, disciplined men undoubtedly gave impetus to the national aspirations that finally realized a new democracy.

Americans will be gratified to know that the behavior of the American Expedition has laid the foundation for a wonderful friendship between America and Siberia. We did not gain this favor by prowess at arms, but by our ability to mind our own business. While many of us never knew why we were over there, we know that we left with the good will of the Siberians. The only sense in which they were glad to see us go was in the sense that a man would like to have even his best friend out of the house while he settles a little quarrel with his wife.

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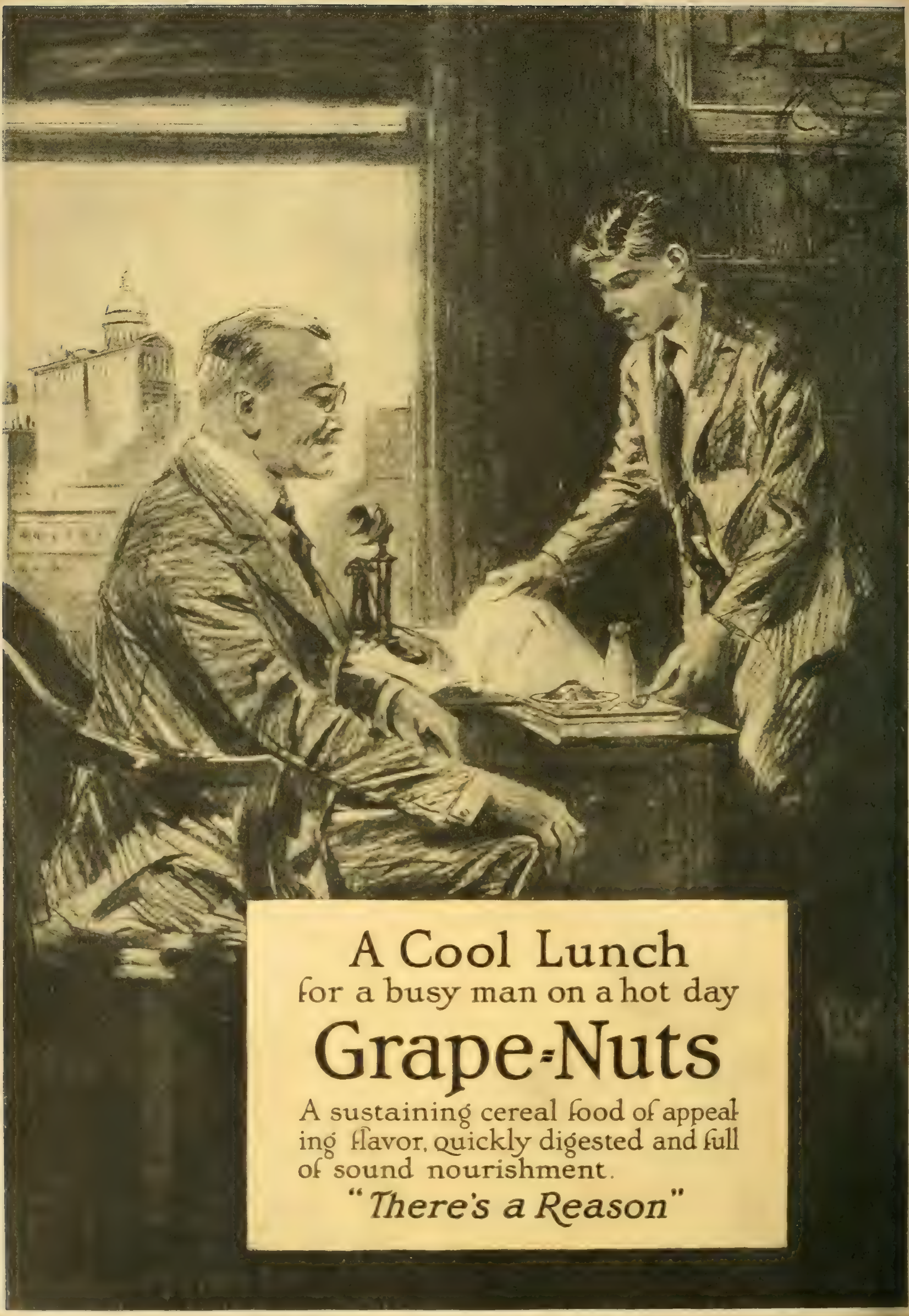

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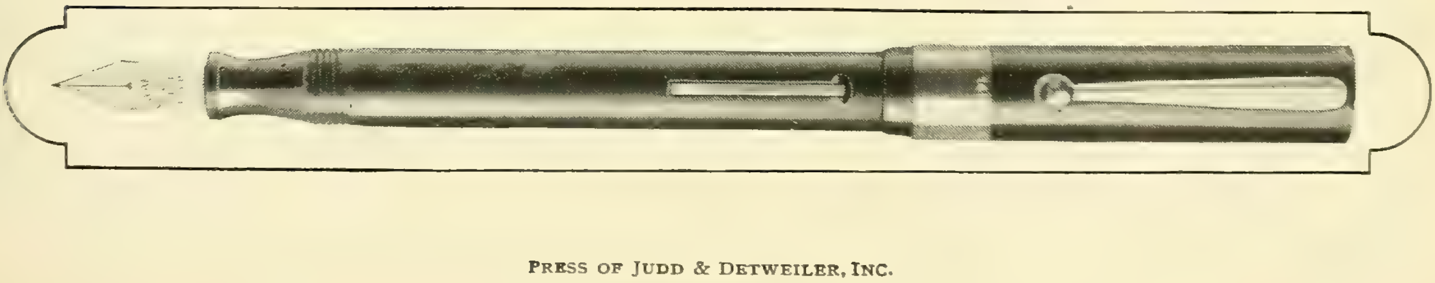

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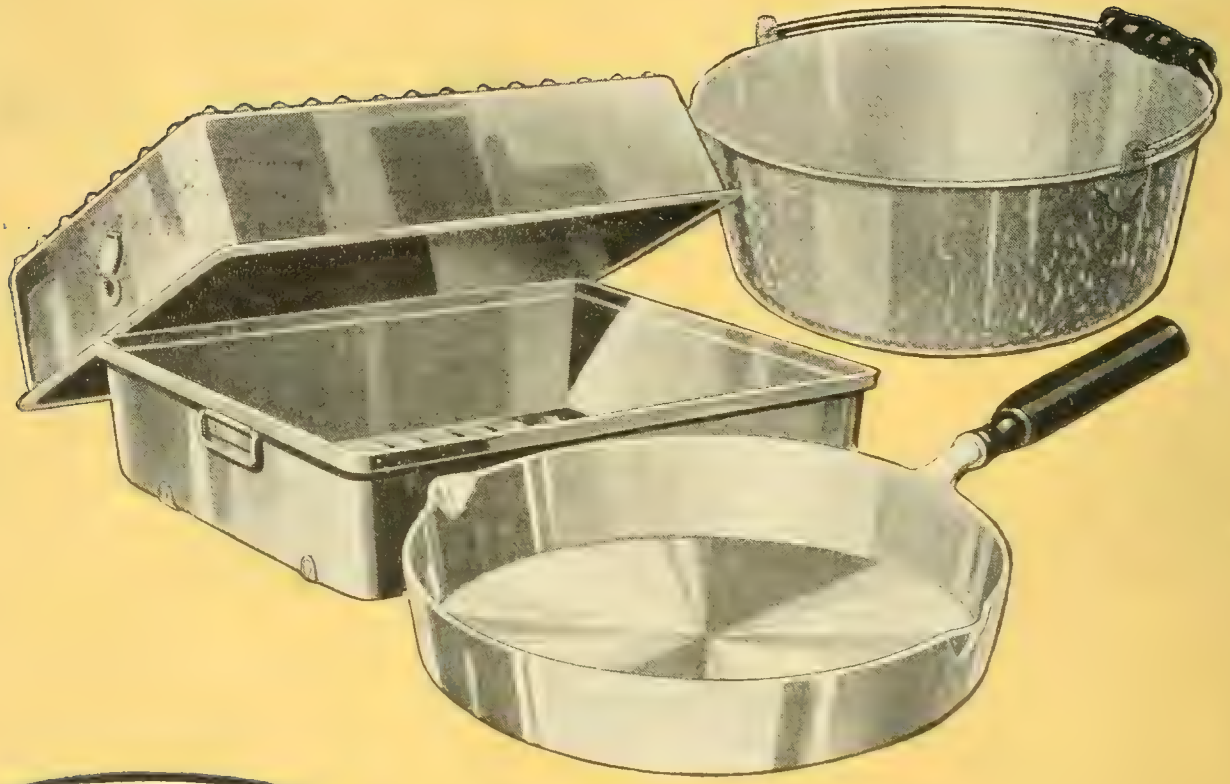

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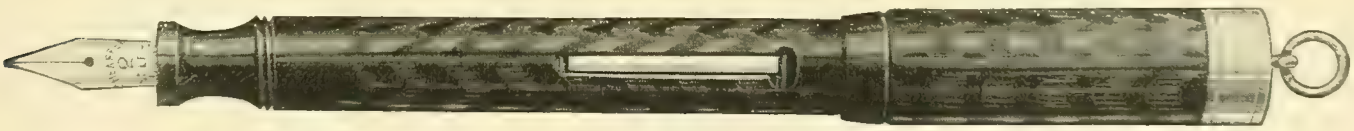

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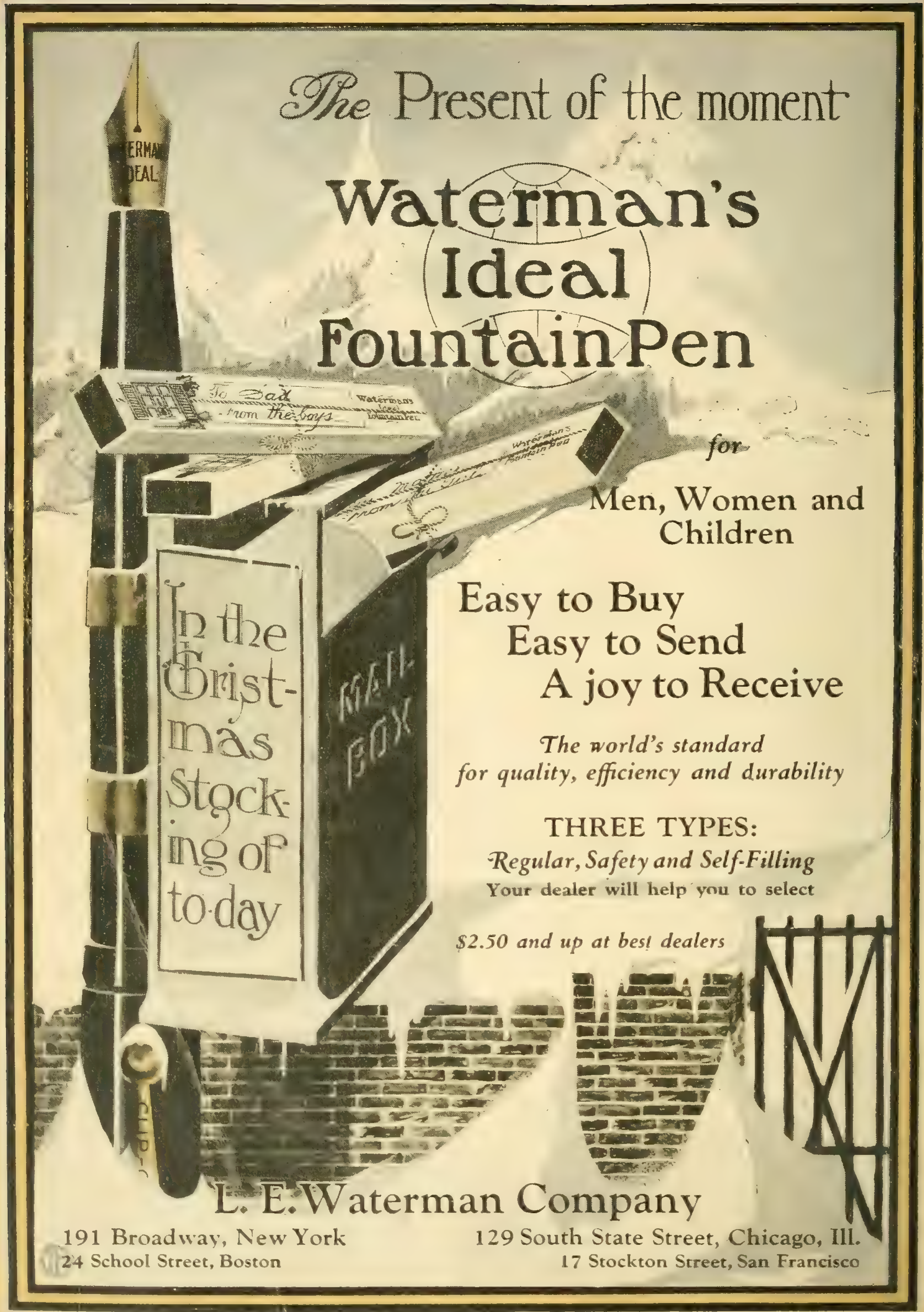

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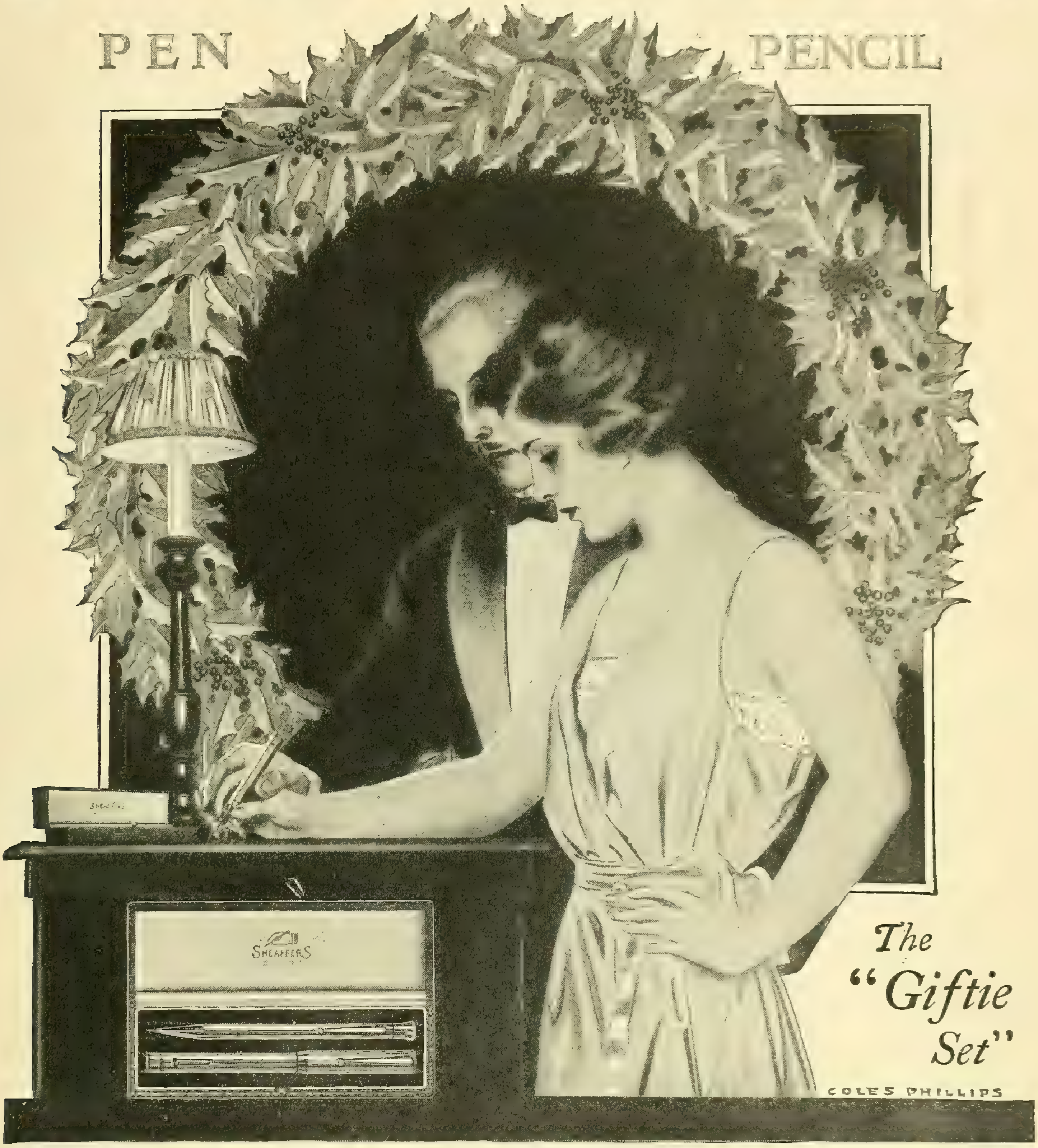

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